Exploring Contingent Employment Policy in IT – Impacts upon IT Project Management Capabilities Enhancement in Large Hong Kong Organisations

A thesis submitted in partial fulfilment of the requirement for the degree of Doctor of Project Management

Ng, Chui-Ha (Tracy)
Master of Education (Workplace), RMIT, Australia.
Master of Business Administration, CUHK, Hong Kong.
Bachelor of Science (Computer Science), CUHK, Hong Kong.

School of Property, Construction and Project Management
RMIT University
October 2012
Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of thesis is the result of work which has been carried out since the official commencement date of approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged.

Signed:

Ng, Chui-Ha (Tracy)
June, 2012
Acknowledgements

I would like to express my sincere thanks to everyone who assisted me during the various stages of this thesis.

I sincerely acknowledge the time, energy and patience from my supervisor, Professor Derek Walker and co-supervisor Dr. Ginger Levin, who spent time reading drafts, providing comments, correcting my grammar and giving me the required guidance to enable me to complete this thesis. More importantly, they provided the inspiration and encouragement throughout the entire length of this thesis. Derek has even made a special transit via Hong Kong on his way to a conference to talk with me face to face about my thesis at the airport. Thanks.

Thank you to the sponsorships from the senior managers of the three case study organisations and participants in the case study organisations who took the time to participate in interviews, validate interview summaries and comment on the case study reports. I would also like to mention the four pilot interview participants who are senior project management practitioners in the Hong Kong IT sector. They provided me great insight to this thesis and fulfilled some of the gaps in my knowledge.

I am also grateful to all the friends from the postgraduate students at RMIT for being my antecedents on the path to attain the doctoral degree. I met them at the RMIT University, Australia at the beginning of my doctoral study. They are Eric, Kate, Eshan, Tee, Atif and Titus; they demonstrated to me the path is difficult but fruitful. In Hong Kong, I am also lucky to have my friends Lousia, Daisy, Olivia and Hung, who have access to local university libraries and helped me a lot on book rentals. I would also like to express thanks to the boss of my part-time job, Tommy, for his trust and for giving me the complete flexibility to manage my time among work, study and family.

Last but not least, I would like to thank my parents and family members who supported me to pursue this doctoral degree. In particular, I would like to acknowledge my parents. My father, who passed away in the mid-way on my path to complete this thesis, was a talented man with little formal education because of war. He always encouraged his children to learn and pursue the highest education they could. My mother, with low literacy, is also a genius. She took care of neighbours’ kids to support our family. Most of these kids, including her four children, have been able to obtain territory education and have become contributing citizens to the society. This thesis is dedicated to the memory of my late father. He gave me the courage to overcome all odds.
Abstract

“How can a project-based enterprise accumulate its core competencies when it rents all the human capital?” is a question from DeFillippi & Arthur (1998, p. 125) and is also a question that the researcher wants to answer as a project management veteran in the Hong Kong Information Technology (IT) sector.

Today, large Hong Kong organisations have an increasing reliance on IT and IT projects to sharpen their competitive edge. In parallel, contingent employment on IT projects has become a global trend and is only expected to increase. There are various concerns about the risks on the projects and the project organisations because of the turnover of project team members. Organisational knowledge generated from the projects is rarely retained when the contingent workers leave the project organisations; individual contingent workers might be frustrated by the lack of commitment on their future in the project organisations. It is assumed that the contingent employment policy contributes to the risk of knowledge drainage, prohibits organisational learning, adversely affects the IT project management capabilities of organisations and thus risks the survival of organisations in the competition. Nevertheless, it was found that there was limited referential research undertaken on IT project management capability enhancement through the use of contingent employment even though there were numerous studies about IT project management, contingent employment, and enhancing IT project management capabilities (the three core themes of this thesis). The link joining these themes is missing; there is a gap in the existing knowledge areas. Based on this background, this thesis was commenced with the objectives to (i) explore the importance of continuous advancement of IT project management capabilities to business successes; (ii) identify and explain the contingent and permanent employment policies of IT professionals (including project managers) in large Hong Kong organisations; (iii) investigate and explain the impacts of contingent employment policies on enhancing IT project management capabilities; (iv) identify and explain the practices of advancing IT project management capabilities as an individual, as a group and as a large organisation; and (v) identify and present possible solutions to satisfy the needs to advance IT project management capabilities using contingent employment.

The thesis research followed a constructivist assumption to claim knowledge. The strategy of inquiry was the case study taking the multiple-case, comparative design. Three case studies were conducted in this thesis. The research method mainly relied on open-ended interviews supported by semi-structured interviews and triangulations using documentation and archival records. It basically took the qualitative approach. The three case study organisations are typical large organisations and major employers of the Hong Kong IT workforce. The first and second case study organisations (C1-PB and C2-VD) are representative of a large IT users organisation and an IT and communications services organisation (the two key categories of IT employers) respectively employing a high percentage (over
50%) of contingent IT workers. The third case study organisation (C3-FI) is a contrast case since it employs a low percentage (below 20%) of contingent IT workers and is a typical IT users organisation.

The case studies and comparative analysis conclude that the degree of projectisation, project resource strategies and investment on IT project management capabilities have to fit the organisation’s specific business dynamics and change over time. The business situation of organisations determines the IT projects’ scale and complexity. These factors lead the IT groups to be organised along the spectrum as functional, balanced matrix or projectised structures. An organisation with higher projectisation is likely to have a higher reliance on contingent IT workers and more resource varieties as its IT project resource strategy. In order to continue enhancing IT project management capability, while depending on an increasing percentage of mobile external resources (including contingent workers), an organisation may invest more on project governance and support structures, project management methodologies and tools; it may prefer to retain in-house staff to capture the tacit organisational knowledge and invest in cognitive and operational learning to retain codified organisational knowledge. It may be weak in reflective learning and social learning processes. The social capital development in relation to project management capability is found to be handled primarily by each individually. Within organisational boundaries social capital development is mostly informal. Learning expanded to beyond the organisational boundary is not well mediated although various forms of social networks within and beyond the organisational boundary exist. It is found to be an under-developed area in large Hong Kong organisations. From the contingent workers’ perspective, they typically get into contingent employment work voluntarily unless they are young IT professionals or older technology IT workers. They enjoy the positive impacts brought from contingent employment although they may dislike or accept the negative impacts associated with this type of employment. The relationship with an employing organisation may be a multi-contract or resign-and-rejoin relationship as large Hong Kong organisations prefer retaining a pool of stable contingent workers. In order to advance the project management capability to stay marketable, a contingent IT worker is likely to self invest and practise the individual level’s social, reflective, cognitive and operational learning.

The thesis contributes to organisations having contingent employment as an IT project resource strategy by suggesting reference models to organise and develop organisational learning practices; and to contingent workers by providing a broad view of contingent employment and their ways to enhance in their project management careers. Academically, this research has three contributions including filling part of the knowledge gap, linking up knowledge areas to suggest reference models of enhancing IT project management capabilities under contingent employment context and identifying new knowledge areas such as the value of social capital and the roles of intermediaries that demands further study. However, this research has its inherited limitations from theoretical
frameworks and a small number of case studies, the findings cannot be generalised to represent the situation of a typical large Hong Kong organisation. Furthermore, the participants are mostly from the IT group of the case study organisations. The data collected regarding a case study organisation are drawn from a relatively small group within a large organisation. They could be biased.

**Keywords:** case study, IT project management, contingent employment, enhancing IT project management capabilities, large organisation, organisational learning, Hong Kong
# Table of Contents

Declaration ............................................................................................................................................ ii  
Abstract ........................................................................................................................................... iv  
Table of Contents ............................................................................................................................. vii  
List of Tables ..................................................................................................................................... xiv  
List of Figures .................................................................................................................................... xvi  
Glossary of Terms ............................................................................................................................... xvii

## Chapter 1 - Introduction
1.1. Introduction ........................................................................................................................... 1  
1.2. Background of the Research ................................................................................................. 1  
1.3. Significance of the Research ................................................................................................. 2  
1.4. Research Proposition ........................................................................................................... .. 4  
1.5. Research Scope and Objectives ............................................................................................. 5  
1.6. Research Questions ............................................................................................................... 5  
1.7. Research Design ................................................................................................................ .... 7  
1.7.1. Research method and processes ............................................................................... 7  
1.7.2. Expected contribution and limitations of the research ........................................... 11  
1.8. Structure of the Thesis ........................................................................................................ .1 2  
1.9. Chapter Summary ................................................................................................................ 13

## Chapter 2 - Hong Kong IT Context
2.1. Introduction ......................................................................................................................... 14  
2.2. IT in Hong Kong .................................................................................................................1 4  
2.2.1. Knowledge-based economy and growth of IT sector ............................................. 14  
2.2.2. Challenges of CIOs ................................................................................................ 16  
2.3. Key IT Trends ..................................................................................................................... 17  
2.3.1. Increasing importance of IT role in organisations.................................................. 17  
2.3.2. Outsourcing trend ................................................................................................... 17  
2.3.3. Contingent employment trend................................................................................ 19  
2.3.4. The Mainland China integration trend ................................................................... 20  
2.3.5. Cloud computing trend........................................................................................... 21  
2.4. The Hong Kong IT Workforce ............................................................................................ 22  
2.4.1. Employers of IT workforce .................................................................................... 22  
2.4.2. IT workers career progression ................................................................................. 22  
2.4.3. IT project managers on demand............................................................................. 24  
2.4.4. Hong Kong contingent workforce in IT sector....................................................... 24  
2.4.5. IT workforce mutual co-operation with Mainland............................................... 26
2.4.6. IT workforce continuous learning ................................................................. 27
2.5. Chapter Conclusions ....................................................................................... 29
2.6. Chapter Summary ............................................................................................ 29

Chapter 3 - Literature Survey ................................................................................. 30
3.1. Introduction .................................................................................................... 30
3.2. IT Project Management .................................................................................. 32
  3.2.1. Failure of IT projects ............................................................................... 32
  3.2.2. Characteristics of IT projects ................................................................. 32
  3.2.3. IT project management success models ................................................. 35
  3.2.4. IT project management capabilities ....................................................... 38
3.3. Contingent Employment and IT ..................................................................... 41
  3.3.1. New economy and contingent employment ......................................... 41
  3.3.2. Advantages of contingent employment ............................................... 43
  3.3.3. Disadvantages of contingent employment .......................................... 45
  3.3.4. Contingent IT professionals and project managers ............................. 47
  3.3.5. IT specific characteristics fit contingent employment ......................... 49
  3.3.6. Future of contingent employment ....................................................... 50
3.4. Enhancing IT Project Management Capabilities ............................................ 50
  3.4.1. Project manager career development .................................................... 51
  3.4.2. Formal and informal PM learning ......................................................... 52
  3.4.3. Contingent employment and individual learning .................................. 56
  3.4.4. Organisational PM capability enhancement in new economy ........ 58
  3.4.5. Learning at three levels: individual, group and organisation ............ 59
  3.4.6. Social capital and communities in project management ..................... 63
  3.4.7. Organisational learning beyond organisation boundary ................. 67
3.5. Chapter Summary .......................................................................................... 70

Chapter 4 - Research Method ................................................................................. 72
4.1. Introduction .................................................................................................... 72
4.2. Research Design ............................................................................................ 72
  4.2.1. Ontology of the thesis ........................................................................... 73
  4.2.2. Knowledge claim approach ................................................................. 75
  4.2.3. Research strategy .................................................................................. 77
  4.2.4. Research method .................................................................................. 80
4.3. Research Processes ....................................................................................... 81
  4.3.1. Phase I – literature survey .................................................................... 82
  4.3.2. Phase II – pilot interview study .............................................................. 86
  4.3.3. Phase III – case studies ........................................................................ 88
  4.3.4. Phase IV – comparative analysis ......................................................... 91
9.2.2. Project resource strategy ................................................................. 284
9.2.3. Investment in project management capabilities .............................. 286
9.2.4. Section conclusion ......................................................................... 287
9.3. Characteristics of Contingent IT Workers .......................................... 288
  9.3.1. Voluntary choices ........................................................................... 288
  9.3.2. Disadvantaged groups .................................................................... 288
  9.3.3. Non-short-term basis contingent jobs .............................................. 289
  9.3.4. Human resources agency as legal employer ................................... 290
  9.3.5. Impacts of contingent employment ................................................ 290
  9.3.6. Enhancing project management capabilities ................................. 291
  9.3.7. Section conclusion ......................................................................... 291
  9.4.1. Looking for a balance .................................................................... 291
  9.4.2. Immature contingent employment practices .................................. 292
  9.4.3. Under developed social learning .................................................... 293
  9.4.4. Section conclusion ......................................................................... 294
9.5. Networking for Better Social Capital .................................................. 294
9.6. Chapter Summary ................................................................................ 295

Chapter 10 - Conclusions and Areas for Further Research .......................... 297
10.1. Research Findings ............................................................................. 297
  10.1.1. Research proposition ..................................................................... 297
  10.1.2. Achieving research objectives ....................................................... 299
10.2. Contribution of the Research ............................................................. 300
  10.2.1. Contribution to organisations ........................................................ 300
  10.2.2. Contribution to contingent IT workers ......................................... 301
  10.2.3. Suggestions of areas for improvement ......................................... 301
  10.2.4. Academic contributions .............................................................. 302
10.3. Limitations of the Research ............................................................... 303
10.4. Further Research Suggestions .......................................................... 304
10.5. Summary of this Chapter ................................................................. 305

References: .................................................................................................. 306

Appendix A  Personal journey on project management learning .................. A-1
Appendix B  Case Study Interview Documents .......................................... B-1
  Appendix B1 – Employer/ Employee Letters & Initial Interview Protocol .... B-1
  Appendix B2 – Interview Protocols .......................................................... B-7
  Appendix B3 – Consent Form ................................................................. B-11
Appendix C  Case Study Triangulation Documents ..................................... C-1
  Appendix C1 – Case Study One References ........................................... C-1
Appendix C2 – Case Study Two References ................................................................. C-2
Appendix C3 – Case Study Three References ............................................................ C-3
List of Tables

Table 2.1: Thumbnail sketch of the context of this thesis ................................................................. 29
Table 3.1: The four dimensions of project success model for IT organisations. Source: Kendra & Taplan (2004 Table 3) ................................................................................................................... 36
Table 3.2: Advantages and disadvantages of contingent employment .................................................. 47
Table 3.3: Knowledge communities in relation to the dimensions of social capital and learning. Source: Walker & Christenson (2005 Table I) .................................................................................. 66
Table 3.4: Relevant literature discussed in chapter 3 ......................................................................... 71
Table 4.1: Research design of thesis based on Creswell’s (2003) framework for design .................. 81
Table 4.2: Case study interview questions supporting research objectives matrix ............................ 88
Table 4.3: Summary of actions contributing to quality of research .................................................. 98
Table 5.1: Summary of phase 2 - pilot interview study findings at the individual level ............... 102
Table 5.2: Summary of phase 2 - pilot interview study findings at the group level ............ 105
Table 5.3: Summary of phase 2 - pilot interview study findings at the organisational level ........ 108
Table 6.1: Demographic summary of case study one participants .................................................. 118
Table 6.2: Positive impacts of contingent employment from the organisation’s perspective ...... 126
Table 6.3: Positive impacts of contingent employment from the contingent worker perspective .... 128
Table 6.4: Negative impacts of contingent employment from the organisation’s perspective .... 131
Table 6.5: Negative impacts of contingent employment from the contingent worker perspective ... 136
Table 6.6: Impacts of contingent employment in case study organisation C1-PB ............................ 141
Table 6.7: Organisational learning model of case study one organisation. Source: Järvinen & Poikela’s (2006) process of learning at work model .......................................................... 143
Table 7.1: Demographic summary of case study two participants .................................................. 158
Table 7.2: Positive impacts of contingent employment from the organisation’s perspective .... 175
Table 7.3: Positive impacts of contingent employment from the contingent worker perspective ... 187
Table 7.4: Negative impacts of contingent employment from the organisation’s perspective ... 191
Table 7.5: Negative impacts of contingent employment from the contingent worker perspective ... 195
Table 7.6: Impacts of contingent employment in case study organisation C2-VD .................... 198
Table 7.7: Organisational learning model of case study two organisation. Source: Järvinen & Poikela’s (2006) process of learning at work model ....................................................... 202
Table 8.1: Demographic summary of case study three participants .................................................. 233
Table 8.2: Negative impacts of contingent employment from the organisation’s perspective .... 250
Table 8.3: Positive impacts of contingent employment from the organisation’s perspective .... 255
Table 8.4: Impacts of contingent employment in case study organisation C3-FI ..................... 259
Table 8.5: Organisational learning model of case study three organisation. Source: Järvinen & Poikela’s (2006) process of learning at work model .................................................. 260
Table 9.1: Organisational IT project management learning model from comparative analysis ........ 283
Table 9.2: Common organisational learning practices. Source: Järvinen & Poikela’s (2006) process of learning at work model ............................................................................................................................... 287
Table 9.3: Common contingent employment impacts on contingent workers ......................... 290
List of Figures

Figure 1.1: Structure of the thesis ........................................................................................................ 13
Figure 2.1: Value-added of IT sector vs Hong Kong GDP between 1998 and 2008 ......................... 15
Figure 2.2: Manpower of IT sector (1998 to 2005) and the projected growth (2005 to 2012) ......... 15
Figure 2.3: Number of IT employees by type of organisation between 2002 and 2008 .................... 18
Figure 2.4: Manpower of IT sector between 2002 and 2008 ................................................................. 18
Figure 2.5: Distribution of IT employees by sector. Source: VTC (2010 Figure 1) ......................... 22
Figure 2.6: IT posts and respective years of IT experiences ................................................................. 23
Figure 2.7: Manpower structure by job category. Source: VTC (2010 Figure 2) ......................... 23
Figure 3.1: Building project management capability around project performance in construction. Source: Sauer et al. (2001 Figure 1) ........................................................................................................... 35
Figure 3.2: Multiple process views of IT projects (expanding upon Rethinking Project Management). Source: Sauer & Reich (2009 Figure 2) ............................................................................................................................................. 38
Figure 3.3: Organisational learning approach. Source: Crossan et al. (1999 Table 2 & Figure 1)...... 60
Figure 3.4: Inter-project learning mechanisms. Source: Prencipe & Tell (2001 Figure 2) ............... 61
Figure 3.5: The process model of learning at work. Source: Järvinen & Poikela (2006, p. 182) ...... 62
Figure 3.6: A model of knowledge categories and transformation processes. Source: Hedlund (1994, p. 77) ........................................................................................................................................................................ 69
Figure 3.7: The project-based learning. Source: Arthur et al. (2001 Figure 1) ................................. 69
Figure 4.1: Framework for design. Source: Creswell (2003 Figure 1.1) .............................................. 76
Figure 4.2: The five-phase research processes ..................................................................................... 82
Figure 4.3: The data analysis spiral. Source: Creswell (1998 Figure 8.1) .......................................... 93
Figure 6.1: Case study one report structure ......................................................................................... 114
Figure 6.2: High-level organisation structure of case study one organisation .................................... 115
Figure 6.3: Case study one project matrix structure .......................................................................... 156
Figure 6.4: Matrixed economy of Hong Kong IT sector. Source: Barley & Kunda (2006 Figure 3). 163
Figure 7.1: Case study two report structure ....................................................................................... 172
Figure 7.2: High-level organisation structure of the case study two organisation ........................... 173
Figure 7.3: Case study two project director tree structure ................................................................. 219
Figure 7.4: Case study two resource networks .................................................................................... 221
Figure 7.5: Case study two organisational networks ........................................................................ 223
Figure 7.6: The project-based learning. Source: Arthur et al. (2001 Figure 1) ................................. 226
Figure 8.1: Case study three report structure ..................................................................................... 230
Figure 8.2: High-level organisation structure of case study three organisation ................................ 232
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>Abstract Conceptualisation</td>
</tr>
<tr>
<td>AE</td>
<td>Active Experimentation</td>
</tr>
<tr>
<td>AK</td>
<td>Articulated Knowledge</td>
</tr>
<tr>
<td>APM</td>
<td>Associate Project Manager</td>
</tr>
<tr>
<td>ASMTP</td>
<td>Admission Scheme for Mainland Talents and Professionals</td>
</tr>
<tr>
<td>BAU</td>
<td>Business-As-Usual</td>
</tr>
<tr>
<td>C1-PB</td>
<td>Case study one organisation - Public sector organisation</td>
</tr>
<tr>
<td>C2-VD</td>
<td>Case study two organisation - Vendor organisation</td>
</tr>
<tr>
<td>C3-FI</td>
<td>Case study three organisation - Finance organisation</td>
</tr>
<tr>
<td>CE</td>
<td>Concrete Experience</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>CEPA</td>
<td>Closer Economic Partnership Arrangement</td>
</tr>
<tr>
<td>CFA</td>
<td>Chartered Financial Analyst</td>
</tr>
<tr>
<td>CFO</td>
<td>Chief Financial Officer</td>
</tr>
<tr>
<td>CIO</td>
<td>Chief Information Officer</td>
</tr>
<tr>
<td>CISSP</td>
<td>The Certified Information Systems Security Professional</td>
</tr>
<tr>
<td>CMMI</td>
<td>Capability Maturity Model Integration</td>
</tr>
<tr>
<td>CoE</td>
<td>Centre of Excellence</td>
</tr>
<tr>
<td>CoI</td>
<td>Community of Interest</td>
</tr>
<tr>
<td>CoP</td>
<td>Communities of Practice</td>
</tr>
<tr>
<td>CPIT</td>
<td>Certified Professional IT</td>
</tr>
<tr>
<td>CPO</td>
<td>Corporate Project Management Office</td>
</tr>
<tr>
<td>CQA</td>
<td>Compliance and Quality Assurance</td>
</tr>
<tr>
<td>CV</td>
<td>Curriculum Vitae</td>
</tr>
<tr>
<td>DA</td>
<td>Delivery Assurance</td>
</tr>
<tr>
<td>DPM</td>
<td>Doctor of Project Management</td>
</tr>
<tr>
<td>EDI</td>
<td>Electronic Data Interchange</td>
</tr>
<tr>
<td>EWF</td>
<td>Extended WorkForce</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GL</td>
<td>Group Level</td>
</tr>
<tr>
<td>HKCS</td>
<td>Hong Kong Computer Society</td>
</tr>
<tr>
<td>HKD</td>
<td>Hong Kong Dollar</td>
</tr>
<tr>
<td>HKITPC</td>
<td>Hong Kong Institute for IT Professional Certification</td>
</tr>
<tr>
<td>HKMA</td>
<td>Hong Kong Monetary Authority</td>
</tr>
<tr>
<td>HKSAR</td>
<td>Hong Kong Special Administrative Region</td>
</tr>
<tr>
<td>HR</td>
<td>Human Resources</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>IF</td>
<td>Intuition Formation</td>
</tr>
<tr>
<td>II</td>
<td>Intuition Interpretation</td>
</tr>
<tr>
<td>IK</td>
<td>Integration of interpreted Knowledge</td>
</tr>
<tr>
<td>IL</td>
<td>Individual Level</td>
</tr>
<tr>
<td>IPMA</td>
<td>International Project Management Association</td>
</tr>
<tr>
<td>IS</td>
<td>Information Systems</td>
</tr>
<tr>
<td>ISC</td>
<td>International Information Systems Security Certification</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organisation for Standardisation</td>
</tr>
</tbody>
</table>
Interview Study - PuBlic sector organisation (one of the pilot interview study organisations)

IS-SP
Interview Study - Services Provider (one of the pilot interview study organisations)

IT
Information Technology

IT&T
Information Technology and Telecommunication

KBE
Knowledge-Based Economy

KI
Knowledge Institutionalisation

KM
Knowledge Management

KPI
Key Performance Indicator

LD
Learning by Doing

MPF
Mandatory Provident Fund

NDA
Non Disclosure Agreement

NK
Networking new Knowledge

OGCIO
Office of the Government Chief Information Officer

OL
Organisational Level

OPM3
Organisational Project Management Maturity Model

OPPS
OPeration Product services and Support

OTJ
On-The-Job

P2MM
PRINCE2 Maturity Model

PD
Project Director

PgMO
Programme Management Office

PgMP
Program Management Professional

PM
Project Management

PMCD
Project Management Competence Development

PMI
Project Management Institution

PMO
Project Management Office

PMP
Project Management Professional

PO
Project Office

PPM
Project and Portfolio Management

PRINCE2
Project IN Controlled Environments 2

PSO
Project Support Office

QA
Quality Assurance

RC
Reflecting Collectively

RM
Resource Management

RO
Reflective Observation

ROI
Return On Investment

RPM
Rethinking Project Management

SA
Systems Analyst

SE
Sharing Experience

SITM
Senior IT Manager

SME
Small and Medium Enterprise

SSA
Senior Systems Analyst

T22
A 3-year T-contract commenced from 1st August, 2009.

TA
Technical Architect

T-contract
A form of body-shopping contract coordinated by OGCIO, HKSAR Government

TK
Tacit Knowledge

UK
The United Kingdom

US
The United States of America
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>US Dollar</td>
</tr>
<tr>
<td>VTC</td>
<td>Vocational Training Council</td>
</tr>
<tr>
<td>WRIE</td>
<td>Wholesale, Retail, Import and Export trades</td>
</tr>
</tbody>
</table>
Chapter 1 - Introduction

1.1. Introduction

This chapter introduces the background of this thesis, its significance, the research’s proposition, scope and objectives, and the research questions. It also provides highlights of the research design including the research method and processes summary. The expected research contribution and likely limitations are also presented. Before the closure of this chapter, the report structure of this thesis is detailed to facilitate readers to navigate this thesis.

1.2. Background of the Research

The role of the IT (information technology) professional is becoming strategic for organisations, and it is becoming more common-place for IT project managers to have seats in board-room meetings (McLean, 2006, p. 36).

McLean’s (2006) highlight above indicates that IT plays an increasing strategic role in today’s business world. Large Hong Kong organisations have an increasing reliance on IT to connect effectively within and beyond the organisational boundaries to sharpen their competitive edge (CENSTATD, 2011a). Organisations have clear demand on IT and IT project management (PM) capabilities (Dwyer, 2009; eWeek, 2007; Holland, Hecker & Steen, 2002; Newswire, 2007; Staff, 2012) as their valuable assets. In parallel, another phenomenon - contingent employment on IT projects -- has become a global trend and is expected to continue growing rapidly; “the growth in contingent employment arrangements has been one of the most significant human resource trends in recent times (Belous, 1989; Marler, Barringer & Milkovich, 2002)”(Peel & Inkson, 2004, p. 542). These dual phenomena are also the researcher’s observations.

The researcher has practised IT project management for large Hong Kong organisations for almost 20 years and has deep impression on the increasing trend of employing contingent IT workers on projects. The researcher’s personal journey on project management is detailed in Appendix A of this thesis. The percentage of contingent IT workers on one project led by the researcher was over 80% at a point of time. The researcher worried about the risks on the project and the project organisation due to the turnover of project team members. Knowledge generated from the project was hardly retained by the project organisation when the contingent workers left during the project or after project completion. Nevertheless, the researcher also felt empathetic about the contingent workers’ frustration; there was no commitment on their future in the project organisation. From the researcher’s personal journey on project management learning (see Appendix A), experience as a project manager, previous research (Ng, 2008) together with inputs from knowledgeable IT practitioners in Hong Kong large organisations (see Chapter 5 – pilot interview study), it is suspected that contingent employment policy (including employing contingent IT project managers) contributes to the risk of knowledge
drainage and prohibits organisational learning (see Section 4.2.1 for details). This will adversely affect the IT project management capabilities of organisations and thus risk the survival of organisations in the business competition. This background stimulated the researcher to formulate this research – “Exploring contingent employment policy in IT – impacts upon IT project management capabilities enhancement in large Hong Kong organisations”. It includes three core themes: IT project management, contingent employment, and enhancing IT project management capabilities.

1.3. Significance of the Research

Hong Kong being a vibrant city wants to become a knowledge-based economy (CENSTATD, 2011a); its IT industry is playing a significant role on this goal and faces the challenges of keeping up the knowledge level. The value added of the Hong Kong IT sector has grown 99% in a decade between 1998 and 2008 (CENSTATD, 2007, 2009b, 2011b), and its speed of growth was more than three times that of the overall gross domestic product (GDP). It is a relative small industrial sector in Hong Kong (only employs 3.3% of the total employment (CENSTATD, 2011b)) but is an important one. ‘Increasing importance of IT role in organisations’ has been identified as one of the key trends in the Hong Kong IT sector (see Section 2.3). IT increases productivity, increases the pace of change and gives rise to potentially faster economic growth, but it also creates globalisation and competition in the world economy (Benner, 2002e; Fuchs, 2002; Hodson & Sullivan, 2008). It is full of challenges to survive in this dynamic sector. In a high technology industry such as IT (Turner, Keegan & Crawford, 2003) where knowledge is doubling every seven to 10 years (Burns, 2002), all professionals including project managers have to practise continuous or never-ending learning (McLean, 2006). Specifically, project management skills are on demand (T. Sullivan, 2008) in this new economy when more technology organisations move toward a projectised organisation structure (Barley & Kunda, 2004f; Devine, 2011). In an international and fast paced community like Hong Kong and within a highly dynamic sector such as IT, it is a great challenge to be a Chief Information Officer (CIO) to lead the IT group and deliver IT projects to ensure organisational success. ‘Cost pressure – less for more’ (Gartner, 2012; Hammond, 2011; Staff, 2009i) and ‘Never-ending workforce skill shortage’ (Chan, 2009; Staff, 2012; Wan, 2012) (see Section 2.2.2) are found to be the two common and constant challenges to Hong Kong CIOs over time.

In order to satisfy the growing expectation on IT and IT projects while facing the cost and skill challenges, Hong Kong CIOs have utilised varies strategies. Increasing use of contingent IT workers is suspected to be one of the solutions because it is among the five key Hong Kong IT trends identified from the literature survey of this thesis (see Section 2.3). It is a feasible solution because organisations can acquire the skills on demand by hiring contingent workers (including project managers) for a specific period without committing to long-term employment that normally comes with benefits or training expenditures (Allan & Sienko, 1998; Barley & Kunda, 2004d). From literature surveyed, the contingent workforce may consist of independent contractors, temporary
workers, part-time workers, leased workers, self-employed individuals, home-based workers, individuals brought in through employment agencies, on-call or day labour, and workers on site whose services are provided by contract firms (Barley & Kunda, 2004f; Focus, 2006; Gregory, 2001; Matusik & Hill, 1998). Hiring contingent IT workers through agencies is common in Hong Kong. In addition to in-sourcing contingent workers, Hong Kong CIOs also practise three contemporary tends: outsourcing, integration with the mainland China IT industry and cloud computing (see Section 2.3) to tackle their challenges. Essentially, the solutions are to obtain cost effective and flexible IT capabilities externally; “companies purchasing IT solutions to help their businesses become more productive, efficient, and consequently save money” (Maxcer, 2009, p. 1). Reliance on external vendors such as outsourcing vendors, China off-shore vendors and cloud computing service providers may have further pushed Hong Kong’s contingent employment trend in IT. These vendors and service providers, in the same token, also look for ways to deliver IT services and projects demanding the latest technological skills under cost pressure. Factually, recent reports tell that the demand for IT contingent or temporary workers is expected to outpace permanent employment (eWeek, 2007), and contingent or temporary employment may grow three times as fast as total employment over the next decade (Newswire, 2007). There is lack of official data about Hong Kong IT’s contingent employment growth (see Section 2.4.4). However, it is believed Hong Kong, as an international city, will follow this trend when facing the global competition.

Contingent employment may be the solution to the dynamic economy and changing IT technology. However, they impose new questions. How can individual contingent workers acquire skills to develop their project management careers when organisations do not look after the careers of contingent workers (Peel & Inkson, 2004; J. Sullivan, 2004)? Not every contingent worker can be self-driven and know how to manage one’s career and development. Young people are likely to have difficulty in seeking good mentors and coaches in the job environment to provide necessary guidance to be a mature project manager (Huemann, Turner & Keegan, 2007; Kerzner, 2009). Older workers may be frustrated by the employment arrangement and lose the passion to be good project managers. From the organisation’s perspective, some previously non-existing project management skills are now on demand, such as vendor management, contract management, contingent workforce management, distributed project management (Ma, 1999); there is also a need to determine what competences or knowledge are core to the organisations and how to bring or retain them in-house. A more essential question to ask is: “How can a project-based enterprise accumulate its core competencies when it rents all the human capital” (DeFillippi & Arthur, 1998, p. 125)? The aim of this research is to explore the impacts upon IT project management capabilities enhancement in large Hong Kong organisations in the context of contingent employment. Ultimately, it tries to provide an answer to this essential question (see Section 1.5 - research objective 5).

From the researcher’s literature review of Hong Kong’s IT industry and project management capabilities development (see Chapter 2), there are few if any studies on how individuals and
organisations are prepared to acquire more and better project management capabilities while increasing the number of IT project participants (including project managers) who are under contingent employment in an increasing number of organisations. Moreover, when the researcher surveyed a vast diversity of literature and sought views of scholars from multiple disciplines to look for support on this research’s subject, the outcomes (see Chapter 3) indicated that there was limited referential research done on IT project management capabilities enhancement in the context of contingent employment although there were numerous studies around each of the three core themes (IT project management, contingent employment, and enhancing IT project management capabilities) of this research. A significant amount of research could be found if the ‘IT’ context was excluded. The literature on IT project management and capability enhancement or learning arenas were found to exclude the contingent employment context. Scholars and practitioners researching in the knowledge areas of IT contingent employment (Barley & Kunda, 2004g; Low, 2002; Webster, 2005) also agree they cannot collect statistical data on this aspect of work. The glue joining these three core themes is still missing (see Section 4.2.1). There is a gap in the existing knowledge areas.

This research originated from the researcher’s experience (see Section 1.2 and Appendix A) and is supported by the gap identified from literature survey in the existing knowledge areas. The significance of this research is to explore how the individuals and organisations’ capability enhancement in regards to IT project management are affected by contingent employment policies in large Hong Kong organisations. The findings may potentially provide some insight in how contingent workers and organisations should prepare themselves to face the unavoidable increasing contingent employment trend and the demand for continuous knowledge advancement in Hong Kong. It may also fill some of the empty space identified in the knowledge gap and stimulate further research.

1.4. Research Proposition

In a knowledge-based economy, Hong Kong organisations demand continuous advancement in IT project management capabilities to provide strategic IT solutions for business success. However, under keen competition, especially after the 2008 global finance crisis and the recent Europe debt crisis, Hong Kong organisations are likely to increasingly employ IT professionals (including project managers) using contingent employment terms (Staff, 2009c, 2009k). Employers select qualified contingent employees to fulfil specific needs of the organisations, and it is uncommon to provide training and development investments to these employees (Allan & Sienko, 1998; Barley & Kunda, 2004d). Likewise, contingent workforces have no time or incentive to share their knowledge and experience to their temporary employers. From another perspective, organisations may be able to complete IT projects after acquiring skills from contingent workers. However, it is not easy to retain and synthesise knowledge generated from projects when the contingent IT workers leave the organisations after project completion (T. Hall, Beecham, Verner & Wilson, 2008; Matusik & Hill,
Long-term organisational competitiveness may be adversely impacted if organisational IT project management capabilities cannot be enhanced. Therefore, this research proposition is that:

Contingent employment policy has an adverse impact on individual and organisation learning and causes a decrease in IT project management capabilities in large Hong Kong organisations.

1.5. Research Scope and Objectives

Successful project management is based, on one hand, on accumulated knowledge and, on the other hand, on individual and collective competences (Love, Fong & Irani, 2005, p. xiv).

The scope of this research is to explore how contingent employment policy of IT impacts upon IT project management capabilities enhancement in large Hong Kong organisations. In this research, information technology (IT) ‘encompasses methods and techniques used in information handling, transmission and retrieval by automatic means, including computing, telecommunication (voice, data and video transmission by digital or analogue means), office automation and industrial automation’ (see Section 2.2); IT project management capability is defined as the ‘ability to perform IT project management actions’ (see Section 3.2.4); contingent employment is ‘a category of the workforce that includes those who do not have explicit or implicit contracts to stay with an organisation for an indefinite period of time’ (see Section 2.4.4); and a large Hong Kong organisation is defined as ‘any manufacturing businesses which employs 100 or more persons in Hong Kong; or any non-manufacturing businesses which employs 50 or more persons in Hong Kong’ (see Section 2.2).

Ultimately, this thesis tries to achieve five research objectives; they are:

1. To explore the importance of continuous enhancement of IT project management capabilities to business successes;
2. To identify and explain the contingent and permanent employment policies of IT professionals (including project managers) in large Hong Kong organisations;
3. To investigate and explain the impacts of contingent employment policies on IT project management capabilities enhancement;
4. To identify and explain the practices of enhancing IT project management capabilities as an individual, as a group and as a large organisation; and
5. To identify and present possible solutions to satisfy the needs to enhance IT project management capabilities under contingent employment practice.

1.6. Research Questions

From the literature surveys around the three core themes of this research, there was lack of proven referential studies that glue the core themes together. The research questions can only be established through exploration. A pilot interview study phase (see Section 1.7) has been introduced to collect
more data in the research context, informs the researcher further about the themes of the research, validate if the planned research processes can be operated in real life, and formulate the interview questions. With the outcome of the pilot interview study together with the theories and theoretical models around the core themes collected from the literature survey phase (see Section 1.7), the researcher identified the first version of the interview questions as listed below (see also Appendix B2 interview protocol v1.0). Other versions were identified along the research process (see Section 1.7) and can be found in Appendix B2 of this thesis.

Interviewee Background:
1. What is your current role in your organisation?
2. What are your years of service in your current position?
3. What are your years of contract employment history, if applicable?
4. What are your years of work in IT industry?
5. What key IT roles you have played in you work history?
6. What is your highest education level?
7. What is your formal project management qualification, if applicable?

Research questions:
From the project management and employing organisation perspective:
1. What are the reasons for hiring a contingent IT professional?
2. How does contingent employment of IT professionals impact effective project management at the project and organisational level?
3. How can any identified problems associated with hiring contingent employment of IT professionals be solved?
From the contingent contract IT professional perspective:
4. What are the reasons of becoming a contingent IT professional?
5. How can IT professionals hired on a contingent employment basis gain sufficient context-related skills and experience to be effective project team members?

Three sets of questions form the above list of research questions. The first set of questions is semi-structured questions that inquire about the interviewee’s working history in the organisation and in the industry, his or her education level and formal project management qualification. It was answered by all participants. The second and third sets of questions are open-end questions and are central to this research. The second set was answered by participants ‘from the project management and employing organisation’ perspective. They were at managerial positions such as CIOs, IT managers, project management office (PMO) managers, project directors, project managers or the like. If the participant was not at a managerial level of the organisation, this set of questions was skipped. The third set of
questions was from ‘the contingent contract IT professional’ perspective and was answered by participants of all job levels except those had never been contingently employed.

1.7. **Research Design**

1.7.1. **Research method and processes**

The problem under research is a human problem in relation to how individuals or groups of individuals forming organisations learn project management capabilities. This research is to ‘explore’ the knowledge area in regard to enhancing IT project management capabilities in a contingent employment context. Ultimately, “the researcher builds a complex, holistic picture, analyses words, reports detailed views of informants, and conducts the study in a natural setting” (Creswell, 1998, p. 15). The research design of this thesis was planned following Creswell’s (2003 Figure 1.1) framework for design. It consists of “three framework elements: philosophical assumptions about what constitutes knowledge claims; general procedures of research called strategies of inquiry; and detailed procedures of data collection, analysis and writing, called methods” (p. 3). The thesis research follows the constructivist assumption to claim knowledge. The strategy of inquiry was the case study taking the multiple-case, comparative design. The research method mainly relied on open-end interviews supported by semi-structured interviews and triangulations using documentation and archival records. It basically took the qualitative approach. Chapter 4 explains the choices of framework elements and thus came up with the research design. After identifying the research design, the research processes were defined to contain five phases. They were: Phase I – literature survey, Phase II – pilot interview study, Phase III – case studies, Phase IV – comparative analysis and Phase V - validation.

1.7.1.1. **Phase I - literature survey**

The objectives of Phase I – literature survey were to identify data to inform the initial research design and provide theoretical foundations to support the research analysis. The early literature survey focused on the exploration of the current situation and future prospect of the Hong Kong IT sector. The literatures and data surveyed included the growth of the Hong Kong IT sector (CENSTATD, 2011a, 2011b), challenges faced by CIOs (Chan, 2009; Gartner, 2012; Hammond, 2011), the key trends impacting the sector (Ma, 1999; OGCIO, 2011a; Staff, 2009c, 2010a; VTC, 2010), and the IT workforce (including project managers) demand and supply situations (CENSTATD, 2012a; VTC, 2010), contingent workforce in the IT sector and major resource strategies employed by large Hong Kong organisations. Careers of the IT workforce (JobsDB, 2012) and practices on learning IT project management capabilities (HKCS, 2011a; VTC, 2010) were also studied (see Chapter 2). After understanding Hong Kong’s situation in the research context, the literature survey turned to focus on the three core themes: IT project management, contingent employment, and enhancing IT project management capabilities. A diversity of literature was surveyed and sought views of scholars from multiple disciplines to look for support on these themes. In regard to the theme on ‘IT project management’, it had shorter history as compared to other mature industries such as construction or
defense (Kwak, 2003). IT projects had experienced relative high failure rate (Standish, 1995, 2009). In order to understand the reasons behind the failure, it was essential to understand characteristics of IT projects (Lientz & Rea, 2001; Sauer & Reich, 2009) and how IT project success was measured (Kendra & Taplan, 2004). In order to improve the success rate of IT projects, many scholars such as Julian (2008) and Rad & Levin (2006) had studied practices to enhance IT project management capabilities. Simultaneously, literature was surveyed around the second theme - ‘contingent employment’. There were advantages and disadvantages of utilising contingent employment from both the organisation and the individual contingent worker’s perspectives (Gregory, 2001; Matusik & Hill, 1998; Redpath, Hurst & Devine, 2007). Numerous studies have touched on this aspect of contingent employment, but most of them were not IT specific. In order to understand the specific characteristics of contingent IT employment, literature about contingent IT professionals (including IT project managers)(Bidwell & Briscoe, 2009; Holland et al., 2002), and why the IT sector suited contingent employment (Barley & Kunda, 2004e; Devine, 2011) were also surveyed. Last but not least, the literature on the third theme – ‘enhancing IT project management capabilities’ were studied. IT project management capability was not just the capability of project managers but also that of the organisation implementing the projects. The ability to learn and enhance individual and organisational capabilities was found to be essential to project and business success. Numerous scholars such as Turner (2003) and Ladika (2008) had researched the development of individual project manager capabilities and career paths. However, in the context of contingent employment, contingent workers were likely to experience learning difficulties (Loogma, Ümarik & Vilu, 2004; O'Donoghue & Maguire, 2005). From the organisation’s perspective, organisational learning capability to acquire IT project management knowledge is becoming critical to business success in the new economy. A few three-level (individual, group or team, and organisation levels) organisational learning models (Crossan, Lane & White, 1999; Järvinen & Poikela, 2006; Prencipe & Tell, 2001) were studied. However, learning within the organisation boundary seems to be inadequate in the context of IT project management when dynamic contingent workforce is utilised. People may not stay within the organisation boundary beyond the project duration. Therefore, literature surveyed had expanded to the study of social capital (DeFillippi & Arthur, 1998; Nahapiet & Ghoshal, 1998), communities in project management (Lesser, Fontaine & Slusher, 2000; Rad & Levin, 2002a; Walker & Christenson, 2005), and learning beyond the organisational boundary (Arthur, DeFillippi & Jones, 2001; Hedlund, 1994) to provide hints to the solutions in the context of this research. The literature survey outcomes of the three research themes are presented in Chapter 3 of this thesis. Details of the literature survey processes can be found in Section 4.3.1 of this thesis.

1.7.1.2. Phase II – pilot interview study

Phase II is the pilot interview study. The rationale behind this phase was lack of proven referential studies that link all the three core themes of this research. Two organisations were selected in this phase. They are typical large employers of IT workforces in Hong Kong. Both organisations utilised
high percentage of contingent IT staff to deliver their IT projects. One of them even employed contingent IT project managers. Two interviews were conducted in each organisation; the participants were IT contingent project managers and their hiring managers. This phase had utilised open-ended questions to allow the information little known before the pilot interview study to emerge from the participants (Creswell, 2003; Yin, 2003). In addition to the outcomes from Phase I (literature survey), this phase’s outcome (see Chapter 5) jointly formed the first version of the interview questions (see Section 1.6). Details of the pilot interview processes can be found in Section 4.3.2 of this thesis.

1.7.1.3. Phase III – case studies
In this phase, a multiple-case design (Denzin & Lincoln, 1994; Yin, 2003) was applied. Three case study organisations were identified. They are typical large organisations and major employers of the Hong Kong IT workforce. The majority of the IT employees (68%) are employed by a small number of companies (7.8%) that employ more than 50 employees (VTC, 2010 Figure 8); and the ‘IT users organisations’ and the ‘IT and communications services organisations’ are the two key categories of employers (VTC, 2010). All the three case study organisations satisfy the ‘large Hong Kong organisation’ definition (see Section 1.5). This research used a purposive sampling strategy (Green, 2002), and the cases selected were ordinary cases (Creswell, 1998) but representative ones. One case study organisation belonged to each of the two categories of employers were selected to represent large organisations employing a high percentage (over 50%) of contingent IT workers. Case one was from the public sector and was a typical IT users organisation with 8000 employees including almost 400 IT staff; case two was from the commercial sector and was a typical IT and communications services organisation employing almost 1000 employees including about 200 IT staff in the IT group under study. The third organisation could belong to either category of employers but employed a low percentage (below 20%) of contingent IT workers. Also, case three was from the commercial sector and was a typical IT users organisation employing almost 2000 employees including over 100 IT staff. All the participants engaged were those who have participated in IT project management capabilities learning activities in one way or the other. The targeted participants included IT departments’ or IT groups’ management, human resources manager, training or knowledge management leaders, PMO managers, IT project directors or project managers (permanent terms and contingent terms) or IT project leaders (permanent terms and contingent terms).

Prior to interviewing participants from the selected case study organisations, some background information regarding the related organisations and the groups was researched as part of the triangulation process (Bryman, 2001; Creswell, 2003). Other relevant triangulation documents and archives were collected in parallel with the case study interviews. These included government information, industrial bodies’ research and publications, available project management training programmes in Hong Kong and others. This research adopted the theoretical sampling method suggested by Corbin (2008) to select interview participants in each case study organisation. Each case
study organisation was expected to have six to eight participants. The researcher conducted the interviews in multiple batches. One to two participants were involved in each batch. With theoretical sampling as the data collection method, the previous interviews’ data impact the subsequent interviews’ participant selection and the data collection questions (Corbin, 2008). After each batch of interviews, interview summaries were prepared by the researcher. Once the interview summaries were validated by individual participants, the interview data were codified and analysed. Analysis was documented in the form of memos and diagrams (Corbin, 2008 Chapter 6). The initial list of concepts and sub-concepts were derived from the memos and diagrams using the open coding technique (Corbin, 2008 Chapter 9). After analysing one batch of interviews, new sets of interview questions (see Appendix B2) would be derived to support concepts identified and to collect additional data. This process was repeated until only few, if any, new concepts emerged in each case study. This signals data saturation (Corbin, 2008). With the completion of data analysis of all interview data batches in each case study, ‘data’ collected from triangulation documents about the case study organisations were then analysed to supplement the interview findings. Each case study organisation’s data was collected and analysed as one case study and three case study reports (Chapter 6, 7 and 8) were developed. Details of the case study processes can be found in Section 4.3.3 of this thesis.

1.7.1.4. Phase IV – comparative analysis
When the individual case study’s analysis came to an end, Phase IV – comparative analysis was performed to cross compare the three case studies from Phase III. The outcome of this phase informed the research findings of the whole thesis. Analysis results from individual case studies were cross examined from different perspectives to compare and contrast themes and concepts across case studies to identify similarities and differences. In this stage, all triangulation data collected from the individual case study organisations and relevant sources were referenced. The conclusions generated in this phase form possible solutions to satisfy the needs to enhance IT project management capabilities under contingent employment practice and thus to achieve the fifth research objective - To identify and present possible solutions to satisfy the needs to enhance IT project management capabilities under contingent employment practice. They were documented in Chapter 9 of this thesis and were validated in Phase V – validation for the final research outcome confirmation. Details of the comparative analysis processes can be found in Section 4.3.4 of this thesis.

1.7.1.5. Phase V – validation
Phase V – validation is the last phase of this research. The purpose is to validate the findings and the solutions. The researcher presented the corresponding case’s research findings and the solutions from Phase IV to at least one representative participant (with a job position as a project manager or above) from each case study organisation to provide face-to-face feedback so as to verify the researcher’s understanding and conclusions. In addition, these initial case study findings were sent to the corresponding case study participants for voluntary feedback. Their comments and feedback help to
refine the research findings and the solutions. Details of the validation processes can be found in Section 4.3.5 of this thesis.

After this phase was completed, the case study reports (Chapter 6, 7 and 8) and the comparative analysis outcomes (Chapter 9) were revised. Finally, the research findings were analysed against the research objectives to develop the conclusion of this thesis (see Chapter 10), and this thesis was then revised and finalised.

1.7.2. Expected contribution and limitations of the research

The objective of this research was to explore the impact of hiring contingent IT professionals on IT project management capabilities enhancement. This research then identified possible solutions to satisfy the needs to advance IT project management capabilities under contingent employment practice. Suggestions for improvement to be applied in real-life were validated by experienced project managers or senior IT managers to validate solutions proposed. This understanding of the current situation and its current impact and suggestions solutions to obviate problems formed the main contribution of this research. It contributed to both project organisations and individual contingent IT workers. Organisations may use results from this thesis to base their specific business situation and reliance on IT project management capabilities to implement some of the possible solutions identified in this thesis. Individual contingent IT workers can have a broader view on contingent employment and understand the advantages and disadvantages they are likely to encounter and consider advice posted by the case study participants who are experienced in the contingent IT employment context. This enables them to be ready to face the challenges as contingent IT worker and prepare to be self-reliant on their training, development and career advancement. Furthermore improvements are suggested, under contingent employment, for them to learn beyond the organisational boundaries so that they fully capitalise the knowledge brought to organisations through contingent employment’s dynamic nature. This may contribute to the Hong Kong IT community’s project management learning.

In practical terms, this research has investigated an area that is under exploration, it filled part of the knowledge gaps in the IT project management under the contingent employment context by linking multiple knowledge areas (IT project management, contingent employment, and enhancing IT project management capabilities). Some concepts in the knowledge areas were extended, or new ones were introduced during the research. These may present areas worth further study to identify new methods of enhancing IT project management capabilities or perfecting the contingent employment practices. Last but not least, the findings and conclusions can also shed light to those who have the interest to undertake further study on research similar to this thesis. Hopefully, it can contribute to the related knowledge areas and arouse more interest.
In acknowledging limitations to this thesis, this research uses a qualitative research approach and involves a relative small number of participants in a few large Hong Kong organisations. The research focused on IT project management. The participants mostly came from the IT departments or IT groups of the case study organisations. This is especially the case at the organisational level analysis. The data collected regarding an organisation were from mainly one department or group within a large organisation. There is likely to be some level of bias even with the stringent efforts that have been applied to minimise bias. Furthermore, due to the constraint of time and resources for this research, only three large organisations were studied. The findings therefore cannot be generalised to represent the situation of a typical large organisation in Hong Kong. However, this research has built in the research design to maximise the validity and reliability of the research outcomes (see Section 4.5) under these limitations.

1.8. Structure of the Thesis

This thesis is documented in 10 chapters. Chapter 1 is the introduction of the whole thesis. It provides an overview of the research background and its significance, the research proposition and objectives, and a highlight of the research design. It also details the structure of the thesis (refer to Figure 1.1). Chapter 2 presents the literature relevant to the thesis’ context of large Hong Kong organisations that are major employers of IT professionals and the chapter also explores the impacts of contemporary contingent employment trend upon IT project management capabilities enhancement. The chapter details the IT sector in Hong Kong and key workforce trends. Chapter 3 is the literature survey chapter. It details the literature survey results including literature findings on the three core themes of this research: IT project management, contingent employment, and enhancing IT project management capabilities. Theories including organisational learning, individual learning, successful project management models, social capital and learning beyond the organisational boundaries that support this thesis are also presented in this chapter. This chapter both informs the thesis and identifies gaps in the literature. Chapter 4 describes the research strategy and method of this thesis. The underpinning ontology and epistemology of this thesis are explained. The data collection and data analysis processes are also detailed. This chapter also provides explanation on how the quality of the research is assured and the ethical considerations in this thesis. Chapter 5 describes the outcomes of Phase III – pilot interview study. Prior to commencing the case studies, a pilot interview study was conducted to provide some initial data to inform the research design and set up the case study interview questions. The analysis and findings from this exploratory study were documented in this chapter. Chapters 6 to 8 contain the outcomes from each of the three case studies (refer to Phase III – case studies). The presentation of each chapter is a single case by itself, and the structure of each chapter is the same. Section 1 introduces of the case study organisation and the participants. Section 2 describes contingent employment policies and practices of the case study organisation. Section 3 explains the importance of IT project management capabilities to the case study organisation’s business and IT projects. Section 4 describes the impacts of contingent employment from the organisation and
contingent worker perspectives. Section 5 details the findings on organisational learning and project success. Section 6 is about developing and maintaining social capital and Section 7 discusses learning beyond organisational boundary. Lastly, Section 8 is the conclusion and thesis summary. Where possible, findings are compared against the theoretical frameworks and ways are suggested to improve IT project management capabilities in the case study organisation’s context. Chapter 9 presents the outcome of Phase IV – comparative analysis and Phase V the validation phase of this research. It compares the similarities and contrasts the differences of the findings from the three case studies. This chapter tries to generalise the practice of contingent employment of IT professionals in Hong Kong large organisations and how they enhance project management capabilities in such circumstances. It tries to provide some practical solutions to practitioners of the industry on how to continue enhancing IT project management capabilities while facing the irreversible trend of contingent employment. Lastly, Chapter 10 presents the conclusions of the three case studies and the comparative study. It suggests further research directions to those researchers in similar bodies of knowledge.

Figure 1.1: Structure of the thesis

1.9. Chapter Summary

This chapter has provided an introduction of the whole thesis. It serves the purpose to provide an overview of the whole research and highlights the background of the research, the research proposition, objectives, questions and design. Finally, this chapter provides the skeleton of this thesis for the ease of reference. The next two chapters are going to present the outcomes of Phase I – literature survey.
Chapter 2 - Hong Kong IT Context

2.1. Introduction

This research is undertaken within the context of large Hong Kong organisations that are major employers of IT professionals and is exploring the impacts upon IT project management capabilities enhancement under the contemporary contingent employment trend. This chapter is going to provide the context of this thesis including the IT sector in Hong Kong, the key trends and its workforce.

2.2. IT in Hong Kong

In Hong Kong, there is no clear distinction between information technology (IT), information technology and telecommunication (IT&T) or information and communications technology (ICT) sectors referred in different references; and there is no international definition yet (Sin, 2008). These terms are commonly interchangeably used. ‘IT’ is taken as the formal name of the business sector under study in this thesis; it is defined as encompassing methods and techniques used in information handling, transmission and retrieval by automatic means, including computing, telecommunication (voice, data and video transmission by digital or analogue means), office automation and industrial automation (VTC, 2010 Section 1.14). As for the term ‘large Hong Kong organisation’, it is defined as any business that is not a Small and Medium Enterprise (SME) as defined by the Hong Kong Special Administrative Region (HK SAR) Government (CITB, 2007). In this thesis, it is therefore defined as any manufacturing businesses that employs 100 or more persons in Hong Kong; or any non-manufacturing businesses that employs 50 or more persons in Hong Kong.

2.2.1. Knowledge-based economy and growth of IT sector

Hong Kong, being a dynamic society, is striving to become a knowledge-based economy (KBE) of the 21st Century [...] ICT is the key enabler of change in spearheading towards a KBE (CENSTATD, 2011a, p. xiii).

Hong Kong’s IT is a relative small business sector. In 2009, its employment size accounted for 3.3% of the total employment (CENSTATD, 2011b). Nevertheless, it is an important sector when Hong Kong is striving to become a knowledge-based economy. In the 2010 budget speech of the HK SAR Government (HKSAR, 2010), two of the nine suggestions on promoting the development of industries were related to IT – ‘Promoting innovation and technology’ and ‘Encouraging creativity and innovation’. In the 2012 budget speech of the HK SAR Government, the ‘Innovation and technology’ industry, which includes the IT sector, has become ones of the six industries that Hong Kong is focusing on top of the traditional pillar industries (trading and logistics, financial services, business and professional services, and tourism)(HKSAR, 2012). According to the Hong Kong Census and Statistics Department 2007, 2009 and 2011 reports (CENSTATD, 2007, 2009b, 2011b), the value
The value-added of the IT sector increased from HKD39.3 billion in 1998 to HKD78.3 billion in 2008; it represents a 99% growth (see Figure 2.1 below) in a decade. Hong Kong’s GDP grew from HKD1,292 billion to HKD1,677 billion (CENSTATD, 2012b), which was a 30% increase in this period (see Figure 2.1 below). The IT sector’s speed of growth is more than three times that of the overall GDP. The contribution of the IT sector to the value added as a percentage to GDP increased by 1.7% (CENSTATD, 2009a, 2011a) in this period.

Figure 2.1: Value-added of IT sector vs Hong Kong GDP between 1998 and 2008

The faster than average growth at the sector may be explained by the fact that the sector is composed of above average knowledge workforce. “IT sector is one of the most knowledge-intensive sectors [...] employers generally preferred their IT employees to have job-related experience with degree or above qualifications”(VTC, 2010 Executive Summary), and according to Vocational Training Council (VTC) 2008 manpower survey report: information technology sector (VTC, 2008), 57.7% of IT posts were preferred to have first degree or above qualifications. This percentage was substantially higher than the percentage of employed persons in the labour market (that was 21.1% at degree level)(VTC, 2008 Section 3.27). A similar trend was reported in VTC’s 2010 report (VTC, 2010). The number of persons engaged in IT sector was 44,847 and 63,286 in 1998 and 2005 respectively (VTC, 2008). The growth was 41% in this 7-year period. In the next seven years, the projected growth of IT manpower from 2005 (63,286) to 2012 (80,912) (VTC, 2010) would be 38% (see Figure 2.2 below). In these VTC’s manpower survey reports, the term ‘manpower’ is gender neutral. The meaning in Chinese is close to the term ‘human resources’.

Figure 2.2: Manpower of IT sector (1998 to 2005) and the projected growth (2005 to 2012)

The above data analysis of the Hong Kong IT sector implies that the sector has experienced high growth in the last decade in terms of value and the human resources. The sector will continue to grow
in coming years at a similar pace. As a knowledge intensive sector, the value-added of the IT sector may come from the recent government policies such as the 2012 budget speech (HKSAR, 2012) to support the sector and the ways CIOs tackling the challenging business environment that bring in new IT trends that will be analysed later in this chapter.

2.2.2. Challenges of CIOs

In a fast pace community like Hong Kong and in conjunction with a highly dynamic sector, such as the IT, it is a great challenge to be a CIO to lead the IT group of any organisation.

2.2.2.1. Cost pressure-less for more

With the global economy downturn, the pressure to control budget and deliver IT services and products at lower prices has been growing. In 2008 and 2009, every Hong Kong organisation faced the historic global financial crisis. It is natural under such conditions to demand of IT tightening budgets while delivering more strategic value to organisations. A note from Dr. Patrick Chan (Staff, 2009i) clearly illustrated CIOs’ challenges. He sees “corporations are under mounting pressures to invest only in IT that can help their businesses save costs and grow at the same time. As a result, CIOs today [...] need to balance savings against IT investments in order to achieve optimal growth for their organisations”(Staff, 2009i, p. 1). With the economy slightly recovering in 2010 and 2011, IT employment has improved in Hong Kong. However, “the decision of confirming an employment offer has come under close scrutiny with increasing demand of each role” (Staff, 2010b, p. 1) and “cost management was still a key factor overall [although less] dominant than seen during the gloom of the economic crisis”(Hammond, 2011, p. 16). Nevertheless, the global CIO IT budgets are anticipated to be essentially flat for 2012 with a mild increase (3.4%) in the Asia Pacific region (Gartner, 2012). Hong Kong CIOs continue to face cost pressure.

2.2.2.2. Never-ending workforce skill shortage

Another great challenge of Hong Kong CIOs is the workforce skill shortage. The rapid expansion of the IT sector has brought about skill shortages in many advanced western economies (Holland et al., 2002; T. Sullivan, 2008). Hong Kong is of no exception. IT skill shortage or mis-matches continue to be the major problem to CIOs no matter it occurring during a poor economic year (Chan, 2009; Staff, 2009h) or a recovering year(Staff, 2012). There is a “never-ending talent quest” (Staff, 2012, p. 15) in Hong Kong’s IT sector. Among the various IT skills, project management topped the key skills in demand(Chan, 2009; Staff, 2012). In a 2012 workforce survey reported by the HK SAR Government, “the government is expecting a labour shortage [...] Some 14,000 jobs will need to be filled by the year 2018 [...] Most of the job growth will be in financial services, construction, and the information industries”(S. Lee, 2012, p. 1). The cause has been the aging workforce and low birth rate of Hong Kong (Wan, 2012). Hong Kong CIOs continue to face a never-ending workforce skill shortage issue.
Cost and skills shortage are not the only challenges faced by CIOs. Limited by the scope of this thesis, only these two common challenges are highlighted. The changing IT trends in the next section are not only challenges to CIOs but also the ways they tackle the problems.

2.3.  **Key IT Trends**

In analysing the key IT trends of Hong Kong, there are numerous IT practitioner or market views regarding IT trends (Garg, 2011; Gartner, 2012; Hammond, 2011; Staff, 2009b, 2009i). From the academic side, Ma’s (1999) local survey on the perceived importance of 24 critical issues of information systems (IS) management in Hong Kong is found to be the most comprehensive academic study about views of Hong Kong CIOs. Ma’s (1999) study predicted a few key IT trends in Hong Kong regarding how CIOs resolved the issues. In the survey, CIOs saw four issues were getting more critical by 2004 (Ma, 1999 Table 4) as compared to that of 1999. These issues include: ‘outsourcing selected information services’; ‘facilitating managing decisions and executive support system’; ‘developing and managing Electronic Data Interchange (EDI)’; and ‘using information systems for competitive advantage’. In the same survey, CIOs saw three issues were getting less important over time. These issues include: ‘increasing understanding IS role and contribution’; ‘recruiting and developing IS human resources’; and ‘facilitating organisation learning’. These findings suggested that the Hong Kong IT sector would experience: increasing importance of role of IT in organisations; the outsourcing, and the contingent employment trends. These trends gradually came into view in the last decade and become the current key IT trends. Two recent trends that Ma (1999) had not suggested at that point of time are the Mainland China integration trend, and the technological advancement on cloud and mobile computing. These trends will be further elaborated later in this chapter.

2.3.1.  **Increasing importance of IT role in organisations**

From Ma’s (1999) survey, the increasing average rating on issues ‘facilitating managing decisions and executive support system’, and ‘using information systems for competitive advantage’; and the decreasing average rating of issue ‘increasing understanding the IS role and contribution’ (Ma, 1999) are clear indicators that IT (or IS) is more recognised as a strategic player in an organisation. This supports the view of Polansky et al. (2004) that “CIO’s position in the corporate structure is rising steadily and inexorably from the tactical/operational level to the strategic/management level”(p. 29), and what McLean (2006) says recognising that the IT professional is becoming “a more valuable asset to the organisation”(p. 37). This was supported by the fact that IT budgets still increased by 5.3% in Asia (including Hong Kong) in a year of poor economic conditions in 2009, for the purpose of using IT to improve business processes and to grow and transform the business (Staff, 2009b).

2.3.2.  **Outsourcing trend**

The average for ‘outsourcing selected information services’ issue rating increased and dropped for ‘recruiting and developing IS human resources’, and for ‘facilitating organisation learning’ (Ma, 1999);
suggesting an industrial outsourcing trend. These results indicated that CIOs played more attention to select information services to be outsourced, while less attention was placed on their IT (or IS) human resources’ recruitment and development or facilitating organisational learning. This finding was validated by the data from VTC’s (2006; 2008; 2010) manpower survey report: information technology sector issued in 2006, 2008 and 2010. According to these reports, Hong Kong has two types of organisations employing IT employees. They are the ‘IT and communications services organisations’ and the ‘IT users organisations’. The former provide services to the later; the later are the internal IT groups of government or business organisations. There has been rapid workforce growth of the IT and communications services organisations but shrinkage in the IT users organisations in the last decade. The percentage of IT employees of IT and communications services organisations over the total number of IT employees increased from 40.2% to 48.8% from 2002 to 2008 (VTC, 2008 Figure 10). It represented a 28% increase in of number of employees (VTC, 2008 Figure 14) (see Figure 2.3 below). Comparing to the overall 5.7% increase of the IT sector in this period (VTC, 2008) (see Figure 2.4 below), it is obvious that in-house IT work had been outsourced to IT and communications services organisations.

Figure 2.3: Number of IT employees by type of organisation between 2002 and 2008

Figure 2.4: Manpower of IT sector between 2002 and 2008

The recent report (VTC, 2010) indicated both types of organisations had increase in the total number of IT employees, but the IT users organisations (13.1%) increased slightly faster than the IT and communications services organisations (6.8%) (Table 2.13) between 2008 and 2010. This may suggest that either Hong Kong’s IT outsourcing activities slowed down in that period or the IT users
organisations had retrenched too many IT employees between 2002 and 2008 while needing to replenish some establishments.

“As one of Hong Kong’s largest users of IT, the government’s IT expenditure has a major impact on the healthy development of the ICT sector [...] we will continue to adopt an active outsourcing strategy to preserve jobs and assist employment in the private sector” the government CIO (Staff, 2009c, p. 1)

The HK SAR Government has taken the lead in driving IT outsourcing. According to the Efficiency Unit of the HK SAR Government’s surveys on government outsourcing (EU, 2006, 2008, 2010), there was a noticeable increase in the annual expenditure on IT. The annual expenditures on outsourced IT services in 2006, 2008 and 2010 were 1,182 million Hong Kong dollars (HKD), which is equivalent to 152 million US dollars (USD) (EU, 2006 Appendix 4), HKD1,476 million (USD189 million) (EU, 2008 Appendix 4) and HKD2,034 million (USD261 million) (EU, 2010 Appendix 3) respectively. These accounted for 33%, 36% and 46% of the total IT government expenditure (OGCIO, 2011b) in the corresponding years. The outsourced government IT services increased by 72% from 2006 to 2010. This outsourcing trend is likely to continue.

2.3.3. Contingent employment trend

CIOs rated the importance of issues of ‘recruiting and developing IS human resources’, and ‘facilitating organisation learning’ as being low among the 24 critical IS issues in Ma’s (1999) study. This may be exacerbated by the contingent employment trend in the Hong Kong IT sector. It is uncommon that employers will provide training and development investments to employees under contingent employment terms (Allan & Sienko, 1998; Peel & Inkson, 2004; Redpath et al., 2007). Moreover, it is unlikely to involve in-source contingent employees in organisational learning activities that may touch on certain confidential information, company policies or business strategies and potentially leak sensitive information (MacDougall & Hurst, 2005; Matusik & Hill, 1998). This may explain why CIOs rank these two issues low in criticalness.

The literature survey part of this thesis did not reveal any solid data found regarding what percentage of IT workforce in Hong Kong is working on a contingent employment mode, although practitioners (see Section 5.3) have observed an increasing trend. According to data about the Office of the Government Chief Information Officer (OGCIO) (2008a; 2008b; 2008c; 2011c; 2012a; 2012b), IT departments of government bureaux and departments definitely hired a significant percentage of contingent IT workers. The numbers of IT employees under T-contract (a type of body-shopping contract established and administrated by the OGCIO) (OGCIO, 2011c) were 1,245 (OGCIO, 2008c) and 1,815 (OGCIO, 2012b) by mid 2008 and early 2012 respectively. The corresponding periods’ numbers of government IT civil servants were 1,407 (OGCIO, 2008b) and 1,451 (OGCIO, 2012a)
respectively. Roughly 47% and 56% of government IT workforce were under contingent employment in mid 2008 and early 2012 respectively. There are very limited related statistical data available for private organisations. The Manpower 2009 survey had a report about Hong Kong’s contingent employment trend, but it was non-IT specific (Manpower, 2009a). The report indicated that over 40% of Hong Kong employers might be using contingent workers, but more than half of these employers did not view this category of workers as key to their workforce strategy. In a recent report from Baker (2012), which was also non-IT specific, he says “only 8% of the Hong-Kong workforce is employed on a contingent basis, compared to 22% of the global workforce” (p. 1). This trend will be further discussed in this chapter as Hong Kong’s IT workforce is analysed (see Section 2.4 below).

2.3.4. The Mainland China integration trend

Another recent trend in the IT sector is that more Hong Kong IT employees work in Mainland China. This was not included in Ma’s (1999) study. With the handover of Hong Kong back to Mainland China in 1997, the collaboration between Mainland China and Hong Kong has grown tremendously. Hong Kong has signed the Closer Economic Partnership Arrangement (CEPA) agreement that became effective from 2004 (Fong, 2007), and it is this free trade agreement between Mainland China and Hong Kong that offers Hong Kong products, companies and residents preferential access to the Mainland China market. Many Hong Kong industries, including IT, see this is a special ticket to access to Mainland China market (Sin, 2008). Sin (2008) saw Hong Kong was the gateway to Mainland China’s IT industry as Hong Kong had advantages in terms of the proficiency in adapting foreign software to suit the Mainland market; substantial experience and connections in the Mainland; language and cultural advantages; and the ability to take a tripartite partnership among Mainland, international and Hong Kong players. In VTC’s 2006 survey (VTC, 2006), it also revealed that 3.7% companies (2,628) had deployed 12.4% of IT employees (7,998) to work on the Mainland China to gain greater access into the China market (VTC, 2006 Executive Summary). The latest examples were the recent budget speeches of the Hong Kong Government (HKSAR, 2010, 2011, 2012). They stressed advantages being of regional cooperation with the Mainland as making the best of Hong Kong's modernisation and internationalisation through capitalising on the China advantage and speeding up its integration with southern China to increase the depth and breadth of the market in the region, thus creating synergy for the joint development of the two places. On top of the government policy level collaboration between Hong Kong and southern China, the IT outsourcing trend (see Section 2.3.2) has extended into offshore outsourcing to Mainland China for over a decade (Einhorn, 2002; Gartner, 2010; NAROS, 2009; Qu & Brocklehurst, 2003). Some recent development has been on IT qualification mutual recognition. The Hong Kong Computer Society (HKCS), Hong Kong Institute for IT Professional Certification (HKITPC) and Guangdong Modern Information Service Industry Association promote IT qualification to create exchange and interaction opportunities for IT workforces in Hong Kong and Guangdong (Staff, 2010a). ‘Guangdong’ is the major province in southern China. The integration with Mainland China is further deepened.
2.3.5. Cloud computing trend

On the technological side, IT subject matters like cloud computing, mobile communications, consumerisation, Software-as-a-Service, virtualisation, collaborative computing, virtual teaming, and mobile workforce (Accenture, 2010; Claburn, 2011; Gibbs, 2007; ITBusiness, 2010; King, 2008; M2, 2010) are gaining recognition in the IT world. Cloud computing may be seen as the umbrella term covering various kinds of maturing technologies described by the above IT subject matters. There is no united definition and implementation of cloud computing however multiple industrial bodies are in pursuit of a set of cloud standards (Thibodeau, 2011). ‘Cloud computing’ may become the next important IT trend in Hong Kong as evidenced by the Cloud Computing World Forum-Asia (Keynote, 2010) statements about the local IT community taking a lead in driving cloud computing in the Asia region. The HK SAR Government has also posted the ‘Government cloud strategy’ (OGCIO, 2011a) in 2011. Hong Kong is getting serious on cloud computing hoping to reap the perceived benefits such as delivering IT services cheaper, faster and more flexible; or less need to take on specialist IT staff (Arno, 2009; Keynote, 2010). Cloud computing becomes particular attractive after the global economic downturn in 2008 and Europe debt crisis from late 2009. This technology is suitable for companies looking for dynamic scalability but do not have a need to invest upfront or do not have the expertise or capital budget (Arno, 2009; King, 2008; M2, 2010) such as Hong Kong’s SMEs. However, practitioners in the IT sector foresee cloud computing may dramatically change the way in-house IT departments operate (Brandel, 2010; Gibbs, 2007). The IT workforce, especially the younger generation from the digital age, can be more mobile with cloud computing (Brandel, 2010); and Gibbs (2007) sees “everything customer facing will be hosted externally on scalable virtualised infra-structures and enterprise applications of all kinds will be services provided by software-as-a-service vendors. Internal technical staff will exist primarily to enable, manage and secure user access; [...] to connect users to outsourced applications and services” (p. 46).

The above trends align with the Hong Kong CIOs challenges regarding doing more for less, facing challenging and dynamic business needs, accelerated technological changes and in a tight labour market that is difficult to hire IT professionals with the right skills.

The above sections of this chapter have provided an understanding the issues and trends of organisations in the IT sector. The next section will analyse the IT workforce in Hong Kong.
2.4. The Hong Kong IT Workforce

2.4.1. Employers of IT workforce

There is considerable growth of 167% in the number of firms in the IT sector from 5,751 in 1998 (CENSTATD, 2007, p. 43) to 15,338 in 2009 (CENSTATD, 2011b, p. 5). The majority of the employees (68%) were employed by a small number of companies (7.8%) that employ more than 50 employees (VTC, 2010 Figure 8). Roughly, nine out of 10 employers of IT workforce are small organisations. The IT and communications services organisations and the IT users organisations in Hong Kong (VTC, 2010) are key employers of the IT workforce. They employed 34,764 and 38,614 IT workers respectively in May, 2010 (Table 2.13). Figure 2.5 below from VTC (2010) provides a summary view of the distribution of key employers of IT employees in Hong Kong.

![Figure 1: Distribution of IT Employees by Sector (As in May 2010)](image)

*Number of IT employees in brackets.

Note: The distribution of IT employees by sector may not add up to 100% due to rounding.

2.4.2. IT workers career progression

According to the 2009 JobsDB compensation and benefit survey report (JobsDB, 2009), the common IT job posts and the corresponding years of IT experience required were: IT director (10 years+), IT manager (8 years+), project manager (7 years+), architect/consultant (5-6 years), system analyst (4-5 years), analyst programmer (2-4 years), programmer (0-2 years), systems support/network manager (8 years+), database administrator (2-5 years), network administrator (2-5 years), network engineer (1-3 years) and technical support (0-1 year). Figure 2.6 below summarises the IT job posts and their respective expected years of IT experience. These are common job titles found on IT vacancy advertisements in Hong Kong.
From the source of VTC (2010), the manpower structure by job category of Hong Kong IT employees is summarised in Figure 2.7 below.

Figure 2.7: Manpower structure by job category. Source: VTC (2010 Figure 2)

The VTC data (2006; 2008; 2010) indicated about one third to 45% of the IT professionals work on IT/software development related job posts. Computerworld Hong Kong (Staff, 2009e) also reported that IDC forecasted 47% of IT employment would be software-related, and it might double the growth of total IT employment in the next four years from 2009. The JobsDB data in Figure 2.6 indicates that
the usual career path of a software related IT professional is that he or she graduates with a first
degree (preferred academic qualification of 57.7% of IT posts) or associate degree / higher diploma /
diploma / higher certificate / certificate qualification (preferred academic qualification of 30.6% IT
posts) (VTC, 2008 Section 3.27) and begins his or her career as programmer. In two to three years
time, he or she progresses to be an analyst programmer. With maturity on the job, he or she becomes a
system analyst. A system analyst may advance to be an architect or consultant. With about seven or
more years of IT experience, an IT professional may further move up the career ladder to become a
project manager or an IT manager. A minority of IT professionals may be promoted to the IT director
level. Other IT professionals progress their career ladder from a non-software development path such
as networking, systems and technical support, system administration, database, security and sales.

2.4.3. IT project managers on demand

Among the different IT posts, ‘project manager’ has been the third in terms of the highest average
director and IT manager posts. In 2012’s survey (JobsDB, 2012), project manager superseded IT
manager and became the post of the second highest salary in 2011 and 2012. Each organisation only
needs at most one IT director and may not need many IT managers. However, every IT project
demands to have the leadership of an IT project manager. Therefore, it is natural that the career path
to become a project manager is among of the preferred ones of many IT professionals. Factually,
Hong Kong has a demand for high calibre IT project managers. This can be concluded by the priority
of CIOs to invest in project management training (Ma, 1999; Staff, 2009h; VTC, 2006, 2008), and the
IT Project director was among the two pioneer job categories selected for IT professional certification
system of HKITPC (Cheung, 2006) in 2007. In the business outlook of VTC (2008; 2010), IT project
management capability was also brought up as a key contributor to foster Hong Kong’s technological
growth and hence contribute to Hong Kong’s competitiveness in a knowledge-based economy. In
2012, “Project management roles continue to be top of the list [...] of [Hong Kong’s] IT
executives” (Staff, 2012, p. 14).

2.4.4. Hong Kong contingent workforce in IT sector

Among the IT workforce in Hong Kong, some workers are not employed as permanent task force
employees. They are considered as a contingent workforce, which is a category of workforce that
includes those who do not have explicit or implicit contracts to stay with an organisation for an
indefinite period of time (Redpath et al., 2007). Contingent employment is one of the key IT trends
employed by Hong Kong CIOs (see Section 2.3.3). According to contemporary studies about Hong
Kong’s IT sector, the related statistics and survey results did not have specific data about contingent
employment. There was data related to unemployed, underemployed employees (CENSTATD,
2012a), but not on full-time contingent employment. While there are studies on contingent
employment about Hong Kong (Baker, 2012; G. Day, 2008; Manpower, 2009a; Wong, 2001); they
are non-IT specific. However, the HK SAR Government has taken the lead to encourage contingent employment for government bureaux and departments in the IT arena. Roughly 47% and 56% of government IT workforce were under the OGCIO arranged T-contract (OGCIO, 2011c) contingent employment in 2008 and 2012 respectively (see Section 2.3.3). It is an increasing trend. Nevertheless, the T-contract is not the only contract type to employ contingent IT workforce. There are at least two more types – direct contracts and department specific skill bulk contracts. Government bureaux and departments can further acquire IT resources directly from the IT labour market. The percentage of IT contingent employment may be even higher than these calculated figures.

In private organisations, there are no official statistics on contingent employment. According to the experience of IT veterans from some large IT service providers (see Chapter 5), labour-intensive IT projects, such as those software development and systems integration ones, may employ as high as 50% to 80% of contingent IT workers. Factually, by job category, the IT/Software development category hires 45%, 36.3% and 35.9% of total IT employees in 2006, 2008 and 2010 respectively (VTC, 2006 Table L; 2008 Figure 2; 2010 Figure 2). It is the single job category that employs the largest number of IT workforce (see Figure 2.7 above) and is a labour intensive job category. It is highly recognised that private organisations in Hong Kong have employed a fair percentage of contingent IT workforces to implement labour intensive IT/software development projects. In another data source, the ‘IT matters for Hong Kong’ survey (HKCS, 2004), some interesting figures may be contributed by the high percentage of contingent employment in the sector. The result of this survey indicated that most of IT professionals were full-time employed (93%) in jobs that utilised their qualification and experience (60% participants did not feel under-employed). However, they had not earned more salary (75% participants’ income was ‘same’ or ‘less’ than 24 months ago) nor had more secure jobs (51% participants agreed jobs were less secure than 24 months ago) even as they gained more experience over two years’ time. These provide indirect evidence that a considerable percentage of IT professionals are working on insecure contingent jobs. However, it is believed that more permanently employed IT workforces are gradually converted to contingent contract employment involuntarily because permanent positions are lost in mergers and acquisitions, or jobs are outsourced. This was particular obvious in 2008 and 2009 when large IT employers such as the Hong Kong and Shanghai Bank Corporation (HSBC) (Staff, 2008, 2009d) also reduced 60 to 100 IT jobs. In early 2012, HSBC further cut down the Hong Kong IT workforce (Deng, 2012) due to unclear economic environment brought about by the Euro debt crisis. The total number of Hong Kong IT vacancies was down by 37.6% and 5.8% in Q4 2008 and Q2 of 2009 respectively (Staff, 2009f, 2009g). Surveys by an international recruitment consultancy - Robert Walters in 2009 indicated that 80% of Hong Kong workers surveyed said they were willing to take a contract job (Staff, 2009k); one-third of the surveyed respondents in another Hong Kong survey said they work an additional eight to 10 hours per week (Staff, 2009j). From these figures, it is likely that a number of Hong Kong workforce (including IT workers) turned to contingent employment during the financial crisis periods. When the economy...
of Hong Kong picked up at recovering periods, some employers resumed hiring (Chan, 2009; Staff, 2012). However, they became selective and exercised a certain degree of caution even when re-hired (Chan, 2009). There is no data showing those who were redundant in that period to show whether they became permanently redundant, contingently employed or permanently re-employed.

Another group of Hong Kong IT workers, who are likely to be contingently employed, are inexperienced IT graduates. Consistent with contingent IT employment by private organisations data, there is no clear evidence that new IT graduates are more vulnerable to becoming contingently employed. From Figure 2.6 above, only two posts (programmer and technical support) accept inexperienced candidates. Programmers are normally involved in software development work, which is in the IT/Software development job category that is likely to hire large number of contingent workers. Moreover, from the VTC’s 2008 report (Appendix 15), they indicated that only 19% of IT posts preferred to hire candidates with less than two years IT experience. This figure further decreased to 16.5% in the 2010 (VTC, 2010 Appendix 15). On the demand side, 13% (926) of the total recruitment of 2008 (6,975) (VTC, 2008 Table 2.8) and 18% (1,217) of that of 2010 (6,828) were from the source of new graduate of a Hong Kong or non-Hong Kong institution. Conversely, on the supply side, the estimated average annual supply of new graduates in IT or computing for 2008 and 2010 were 2,140 graduates (VTC, 2008 Table 3.11) and 3,495 (VTC, 2010 Appendix 23) respectively with a degree or sub-degree level, excluding those self-financed candidates who were likely to have working experience. This may imply only 43% (that is 926/2,140) and 35% (1,217/3,495) of the new IT graduates could find an IT job in 2008 and 2010 respectively. There is an obvious gap in terms of supply and demand of experienced IT employees. Superficially, from a data perspective, the annual manpower demand and supply situation forecasts found in the reports of VTC 2008 (Figure 19) and 2010 (Figure 18), the Hong Kong IT sector was not short of potential employees. The annual additional manpower supply (including government-funded and self-financed ones) from the degree level and the sub-degree level consistently exceeded the demand for degree level and sub-degree level graduates. However, the data showed that employers found a short of supply of candidates with the right skills (Chan, 2009; Dinham, 2009; Galagan, 2010; HAYS, 2012; Staff, 2009a, 2009h, 2012). Inexperienced or not up-to-skill-expectation IT workers are likely to fall into contingent employment, if not unemployment or under-employment.

2.4.5. IT workforce mutual co-operation with Mainland

Section 2.3.4 above mentions the Mainland China integration trend. In 2006, 12.4% (about 7,998) IT professionals worked full-time in Mainland (VTC, 2006 Executive Summary). This figure dropped significantly to 2,300 in 2008 (VTC, 2008 Executive Summary); it further dropped to 523 in 2010 (VTC, 2010 Executive Summary). With increasing cooperation with the Mainland, one should expect more Hong Kong IT professionals worked in the Mainland instead of less. VTC (2008) explained that “the considerable decrease in number of [Hong Kong] IT employees deployed / recruited to work on
the Mainland [...] might be attributable to the well trained / qualified of the Mainland IT professionals at all job categories to undertake the day-to-day business operations of the companies on the Mainland” (Section 3.8). This illustrates the Mainland IT professionals matured significantly in past few years. In reality, the reverse is happening. The VTC report actually concluded that one of the major developments of IT sector was recruiting from Mainland China (VTC, 2008). This human resources supply retrospective trend may be explained by the Admission Scheme for Mainland Talents and Professionals (ASMTP), which was implemented by the HK SAR Government from mid-2003. The objective of ASMTP is to attract qualified Mainland professionals to work in Hong Kong in order to meet local needs and enhance Hong Kong’s competitiveness in the globalised market. By March 2010, 34,967 talented professionals were admitted under the ASMTP (ImmD, 2010). There is no data indicating how many of these professionals were from the IT sector. However, it is noted that IT is one of the industrial sectors that actively import talents from the Mainland.

2.4.6. IT workforce continuous learning

2.4.6.1. Acquiring formal academic qualifications

VTC (2006; 2008; 2010) bi-annually surveys the manpower supply and demand of the Hong Kong IT sector. In VTC’s reports, the supply of IT manpower mainly consider the source as new graduates of Hong Kong including government-funded and self-financed ones. The ratio of government funded graduates to self-funded ones is roughly 1:1 for the years 2010 to 2014 (VTC, 2010 Figure 15-16). The majority of the government funded graduates (85%) are the first degree and higher diploma graduates, while the self-funded ones are mostly (84%) postgraduate degree/diploma/certificate and higher diploma/associate degree graduates. Formal academic learning is one of the ways to acquire IT project management knowledge in Hong Kong. However, formal statistical figures have not been found by the researcher that provide insight on the quantity of graduates with formal IT project management education. By searching the availability of formal IT project management degrees from local universities, it is found to be limited. According to the research authors’ web site searches in 2008 and 2012, the curricula of Hong Kong universities that offer IT related bachelor degree programmes (computer science, computer engineering, information systems, information engineering or management information systems); it was found that IT or software project management was consistently excluded from the core course lists. About 50% of undergraduate programmes had project management as one of the elective courses. For post-graduate programmes related to IT, IT or software project management were either not taught (50%) or only taught as an elective course (35%); only a small number of programmes (15%) had project management as core course. Regarding project management master programmes, only three local universities offered such studies. They were either on construction, real estate project management, or generic project management. None of them were IT specific. However, project management post-graduate studies are commonly offered by local providers in continuing education institutions such as the School of Professional and Continuing Education of the Hong Kong University, the School of Continuing and Professional Studies of the
Chinese of Hong Kong and overseas academic institutions in the form of distance learning. Most of them are non-IT specific.

2.4.6.2. Learning from professional associations

Hong Kong has about 30 IT related professional associations. They normally have their own area of focus and may either be academic or business oriented. Some have broad focus on the whole IT industry, and some have specific technology or industrial segment focus. Members of IT professional associations in Hong Kong mainly benefit from information, networking opportunities, linking employers and employees in occupation and skill/industry guidance provided by them. They may provide training and even certify professional qualifications of their members. For serving the community, some give advice to the HK SAR Government on policies and future technological development suggestions; others focus on linking with Mainland China’s IT industry. The researcher has not yet found a local professional association that focuses on contingent IT workers by early 2012. In relation to project management, there are a few professional associations that groups the Hong Kong project management community cross industries. Their roles are similar to IT related professional associations. All these professional associations are sources of Hong Kong IT professionals to acquire IT technology and project management social networking, training and professional qualifications.

2.4.6.3. Acquiring professional credentials

In Hong Kong, professional associations or training bodies offer abundant short courses to IT professionals who target obtaining professional credentials. It may indicate that obtaining industrial professional credentials granted by global IT product vendors (such as Cisco, Microsoft, Oracle and Sun) or globally recognised professional certification bodies (such as PMI) are common paths to continue learning for Hong Kong IT professionals. Local credentials are in the developing stage. The HKITPC is the first Hong Kong IT professional certification organisation that assesses and certifies IT professionals based on knowledge, skills, ability and proven work experience. In a recent press release in late 2011, the “Development of a certification roadmap for IT professional certification” project was announced (HKCS, 2011b). ‘Project Management (ICT)’ is one of the seven job categories with three competency levels namely ‘Master’, ‘Specialist’ and ‘Practitioner’ on the roadmap. Obtaining professional credential is a way for an IT professional acquiring the project manager qualification. There is no official statistics on how many IT project managers are developed from the different credential programmes available in Hong Kong. From the PMI’s online credential registry, there were 4,235 registered Project Management Professionals (PMP®) in Hong Kong by February, 2012. In 2006, Hong Kong had 1,100 certified PMPs® (Cheung, 2006) from various industries including IT and the total number of IT project managers was 3,205(Cheung, 2006, p. 4). This was about 5% of the total IT labour (64,473) in 2006 (VTC, 2008 Executive Summary Figure 8).
2.5. **Chapter Conclusions**

The aim of this chapter was to provide an overview of the context of the research problem. The above sections lead to the following conclusions as shown in Table 2.1 below. The summary points to a problem of how to effectively attract, recruit, retain, develop and manage contingent IT workers to support increasing IT workforce demands in Hong Kong especially in the IT project management arena. This reinforces the urgency of research being needed to better understand this situation and how it can be better managed.

Table 2.1: Thumbnail sketch of the context of this thesis

<table>
<thead>
<tr>
<th>Theme</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Hong Kong IT sector of the general economy</td>
<td>The global financial crisis reduced growth in many sectors, but IT continued to grow that places strong cost pressure and heavy manpower demands.</td>
</tr>
<tr>
<td>The key IT trends</td>
<td>IT plays a more important role in originations but has to be cost effective, dynamic and flexible; this drives Hong Kong CIOs to look for outsourcing, contingent employment, the Mainland China resources and cloud computing.</td>
</tr>
<tr>
<td>The nature of IT employment</td>
<td>The number of contingent IT employees has been increasing in the last decade; IT projects have 50% to 80% of the total workforce as contingent IT workers are not uncommon; and this figure appears not to be likely to get smaller.</td>
</tr>
<tr>
<td>The project manager role</td>
<td>IT project managers are on demand aligning with growth of the IT sector; becoming an IT project manager is a popular career goal of IT workers.</td>
</tr>
<tr>
<td>Continuous learning in Hong Kong IT sector</td>
<td>In a knowledge-based economy like Hong Kong and a fast-changing IT industry, continuous learning has to be practised; it is common to acquire it through formal learning at academic institutions and professional associations or by obtaining professional credentials.</td>
</tr>
</tbody>
</table>

2.6. **Chapter Summary**

In summary, Chapter 2 has provided an overview of the Hong Kong IT sector’s context. It briefly describes the market situation of the Hong Kong IT sector, the five key trends: increasing importance of IT role in organisations, outsourcing, contingent employment, the Mainland China integration and the cloud computing. The workforce demand and supply situations are discussed with special focus on IT project managers, contingent workforce and co-operation with the Mainland. This chapter provides the context of this research, and the next chapter – Literature Survey, will provide the contemporary theories that support the themes of this thesis.
Chapter 3 - Literature Survey

3.1. Introduction

This thesis explores the impacts of contingent employment upon IT project management capabilities enhancement in context of large Hong Kong organisations. Chapter 2 introduced the Hong Kong IT context, and this chapter reports on the literature survey results. There are three core themes in this thesis. They are IT project management, contingent employment, and enhancing IT project management capabilities.

Section 3.2 outlines the literature survey outcomes on ‘IT project management’. Relative to project management of long-established industrial sectors such as construction (Kwak, 2003), IT projects have a relatively shorter history and a higher failure rate (Flinders, 2011; T. Hall et al., 2008; Lemon, Bowitz, Burn & Hackney, 2002; Lientz & Rea, 2001; Standish, 1995, 2009; Whitfield, 2007). This has caught the attention of many scholars and practitioners. Research has been conducted to identify characteristics of IT projects (Cooke-Davies, 2002; Lientz & Rea, 2001; Linde & Linderoh, 2006; McLean, 2006; Sauer & Reich, 2009; Trauth, Reinert & Zigner, 2007) to find ways to have more successful IT projects (Kendra & Taplan, 2004; Sauer, Liu, & Johnston, 2001; Sauer & Reich, 2009), and enhance project management capabilities (Ellsworth, 2009; Gresse, Silva, Buglione, Scheidt & Prikladnicki, 2010; ISO, 2008; Julian, 2008; Kerzner, 2005; Levinson, 2010; PMI, 2008b; Rad & Levin, 2002a; SEI, 2010; Williams, 2009).

Nevertheless, with the IT projects employing an increasing portion of contingent workers, organisations and IT projects are now facing new challenges (Benner, 2002d; Fuchs, 2002; Hodson & Sullivan, 2008; Matusik & Hill, 1998; McMorrow, 1999; Nesbit, 2005; Peel & Inkson, 2004; Webster, 2005). Organisations are structured in new forms to adapt to the dynamic environment that demands agile response to changes. Contingent employment policy (Barley & Kunda, 2006; Benner, 2002d; Focus, 2006; Gregory, 2001; Hatton, 2011; Kallenberg, 2001; Matusik & Hill, 1998; Redpath et al., 2007) is one of several recent human resource strategies that creates a new form of triangular (worker-agency-client) employment relationship (Benner, 2002d; Gallagher, 2002; Gonos, 1994).

Section 3.3 details ‘contingent employment’ and IT. Numerous researchers and studies have identified the advantages and disadvantages of contingent employment (Allan & Sienko, 1998; Barley & Kunda, 2004e; Chaturvedi, 2010; Focus, 2006; Gregory, 2001; T. Hall et al., 2008; Labovitz, 2005; Lepak, Takeuchi & Snell, 2003; MacDougall & Hurst, 2005; Matusik & Hill, 1998; Peel & Inkson, 2004; Redpath et al., 2007) though they are not all specific to IT project management. More IT works are being delivered as projects that have definite starts and ends and also the nature of continual technological change in the IT sector suggests a good resourcing fit by using contingent employment policy (Barley & Kunda, 2004e; Bidwell, 2009; Devine, 2011; Gregory, 2001; Holland et al., 2002).
Moreover, there appears to be no end to the contingent employment trend in IT. Literature surveys on contemporary research about contingent employment (not limited to IT industry) show that scholars and practitioners agree the trend of widespread use of contingent employment will continue. Scholars are seeking ways to ensure the success of contingent employment resource strategies (Chaturvedi, 2010; CTHR, 2009; Goldsmith, 2007; Lepak et al., 2003; MacDougall & Hurst, 2005; Manpower, 2009b; Redpath et al., 2007) because the trend in this human resource strategy adoption seems irreversible.

Section 3.4 describes the literature on ‘enhancing IT project management capabilities’. In order to deliver successful projects to organisations, including IT projects, the project management capabilities of both the project participants (especially the project managers) (Barley & Kunda, 2004e; Brandel, 2010; D. T. Hall & Kahn, 2002; Huemann, Turner et al., 2007; Kendra & Taplan, 2004; Ladika, 2008; Loogma et al., 2004; Peel & Inkson, 2004; Pinto, 1999; Turner, 2009) and the organisations (Crossan et al., 1999; DeFillippi, 2002; Järvinen & Poikela, 2006; Julian, 2008; Lampel, Scarbrough & Macmillan, 2008; Prencipe & Tell, 2001) are essential. The ability to learn and enhance individual and organisational capabilities determines success and failure of projects. Numerous studies regarding individual learning, competence enhancement and developing project manager career paths have been reported upon (Baccarini, 2006; Brandel, 2010; Ensworth, 2001; Huemann, Turner et al., 2007; Ladika, 2008; J. Sullivan, 2004; Turner, 2003). Individual project management capability learning includes formal (Dulaimi, 2005; HKITPC, 2009; IPMA, 2012; Nerland & Jensen, 2007; OGC, 2002; PMI, 2008a; Robb, 2007) and informal paths (Barley & Kunda, 2004f; Benner, 2002e; N. Day, 1998; D. T. Hall & Kahn, 2002; Kerzner, 2009; Loogma et al., 2004; Peel & Inkson, 2004; Rad & Levin, 2002a; Sauve, 2007). In the context of organisational learning, there are a number of 3-level learning models. That is learning at individual, group or team, and organisation levels (Crossan et al., 1999; Järvinen & Poikela, 2006; Prencipe & Tell, 2001). However, in the context of IT project management that demands people management skills and utilises a dynamic workforce (Holland et al., 2002; Nerland & Jensen, 2007; J. Sullivan, 2004) such as contingent workers, insights from research in knowledge areas such as social capital (Bredin, 2008; Chi, Chan, Seow & Tam, 2009; DeFillippi & Arthur, 1998; Ellison, Steinfeld & Lampe, 2006; Lave & Wenger, 1991; Lesser et al., 2000; Nahapiet & Ghoshal, 1998; Rad & Levin, 2002a; Sauve, 2007; Walker & Christenson, 2005) and organisational learning models beyond organisational boundaries (Arthur et al., 2001; Hedlund, 1994) seem to be applicable as well.
3.2. IT Project Management

3.2.1. Failure of IT projects

Today, developed countries have all embraced the knowledge-based economy in which IT development projects play a vital role. Sustainable success of enterprises is closely linked to IT projects’ success and failure (Hartman & Ashrafi, 2002). Unfortunately, the high IT project failure rate has continued to be reported by various studies throughout the last decade (Flinders, 2011; T. Hall et al., 2008; Lemon et al., 2002; Lientz & Rea, 2001; Standish, 1995, 2009; Whitfield, 2007). Failed information systems projects may cost hundreds of billion dollars (Lientz & Rea, 2001; Whitfield, 2007). The poor situation seemed even worsened in the 2008 / 2009 financial crisis.

“This year's [2009] results show a marked decrease in project success rates, with 32% of all [IT] projects succeeding which are delivered on time, on budget, with required features and functions. 44% were challenged which are late, over budget, and/or with less than the required features and functions and 24% failed which are cancelled prior to completion or delivered and never used,” says Jim Johnson, chairman of The Standish Group (Standish, 2009, p. 1).

Levinson (2009) sees this poor project success rate situation as being contributed to by decreased IT budget and layoffs. According to the Standish Group’s research, IT project success rates had risen steadily from 1994 until 2000, when they decreased, and then began rising again from 2002 through 2006. However, the highest successful rate reported in 2006 was only 35% (Levinson, 2009, p. 1). This means, most of the time, two out of three IT projects fail.

3.2.2. Characteristics of IT projects

An economic downturn cannot be an excuse for low success rates of IT projects. There are some issues that are IT project specific that may contribute to the high failure rates. Four special features of IT projects are explored below to provide some insight on the reasons IT projects fail.

3.2.2.1. Performance measurements

Various scholars suggest reasons behind the high IT project failure rate. One common reason is that traditional project success metrics stress the ‘iron triangle’ (time, cost and quality of project outputs)(PMI, 2004). Success and failure in most market data are based on these quantifiable measurements but with little consistency. Different studies on the failure of IT projects (see Section 3.2.1) do not have standard measurements. Furthermore, these quantifiable measures “don't reflect the fundamental issues that cause projects to fail, such as unresponsive project governance, unrealistic project plans and business executives' very limited understanding of project management”(Levinson, 2008, p. 1). The problem of limited-criteria project success measurement has already been criticised.
by many scholars and practitioners (Cooke-Davies, 2002; Levinson, 2008; Nogeste & Walker, 2005; Shenhar, Dvir, Levy & Maltz, 2001), and using different metrics impacts the outcome of perceived project success or failure. For IT projects, even based on time-cost-quality as measurements assessing success or failure is problematic. In order to measure success, there must be a measurable project goal at the beginning. Unfortunately, “the goals of a system and technology projects are often not as clearly defined as those in engineering [...] [and] systems projects sometimes lack clear boundaries” (Lientz & Rea, 2001, p. 5). Nevertheless, the nature of IT-mediated projects has “expected inherent interpretative flexibility and drift tendencies” (Linde & Linderoh, 2006, p. 157). Even if measurements are set, they are meant to be unrealistic over time. Another measurement difficulty is related to the interdependent nature of IT projects. An IT project is rarely a standalone system and managed singly such as an independent construction project output (Lientz & Rea, 2001). IT projects normally integrate or interface with legacy systems, to-be-developed applications or some external parties’ IT systems. Performance measurement of IT projects is thus problematic.

3.2.2.2. Organisational and business process embeddedness

The role of the IT professional is becoming strategic for organisations, and it is becoming more common-place for IT project managers to have seats in board-room meetings (McLean, 2006, p. 36).

What McLean (2006) highlights above indicates that IT plays an increasing strategic role in today’s business world. Trauth, Reinert & Zigner (2007) also see IT is moving “even closer towards the strategic centre of the company” (p. 114). Today, IT and business are interdependent. Every business has a thread of IT. This makes IT projects much more diversified and IT professionals support all types of people in a variety of positions (Trauth et al., 2007). Moreover, IT projects are normally related to certain specific business processes targeting different organisational changes and looking for some strategic value to be delivered (Sauer & Reich, 2009). Such process changes are normally new to the organisation, not just to the IT project team members. Some IT projects are enterprise-wide such as enterprise resource planning system implementation. The implementation project may be larger and more complex than any prior systems project in the organisation's experience (Sauer & Reich, 2009), not to say to the IT project team. Moreover, with enterprise management there are greater levels of expectations for IT projects (Lientz & Rea, 2001). IT is driven to utilise the latest technologies or solutions that project team members may not have used previously (Lientz & Rea, 2001). Therefore, IT projects tend to be exploring new technologies and new business processes at the same time, while both the IT technology and business environment change dynamically. This twin feature of new technology and changing business processes is likely to be one of the contributors to the high failure rate of IT projects.
3.2.2.3. Organisation structure and support
When there is a new IT project, the related new IT systems often disrupt and change the existing ways of conducting business, and some of the changes may be enterprise-wide (Sauer & Reich, 2009). Successful business changes depend on business management cooperation and senior management’s support. IT project managers do not have the authority or influence to make such changes (Sauer, Liu & Johnston, 2001). However, organisation and power structures rarely support IT project managers to mandate the business unit involvement that needs to push the business process changes. Sauer et al. (2001) suggests there is need to "organise and manage project management capabilities at the enterprise level. Improved performance on individual [IT] projects then follows on an outcome of the redesigned management structure and processes” (p. 40), therefore, IT functions and the IT project managers’ capability to deliver successful projects depends upon whether the enterprise organisational structure supports IT project management or not. It is beyond the control of the IT project manager.

3.2.2.4. Project manager competencies
The PMI's Project Management Competence Development (PMCD) framework, defines competence as “a cluster of related knowledge, attitude, skills and other personal characteristics that affect a major part of one's job, correlates with performance on the job, can be measured against well-accepted standards, and can be improved via training and development” (Cartwright & Yinger, 2007, p. 3). Employers of IT workforce have complained that the IT sector is not short of applicants but rather lacks individuals with adequate skills and competencies (Chan, 2009; Dinham, 2009; Galagan, 2010; Staff, 2009h, 2012). For the case of IT project managers, they are expected to have "skills in technology, business operations, management, and interpersonal skills to lead organisational integration and process reengineering activities” (Trauth et al., 2007, p. 113), and they should be trained in an interdisciplinary curriculum in IT including computer science, business and behavioural science. This indicates how difficult it is to find qualified IT project managers. In reality, IT projects continue to face challenges in terms of “technical complexity, rate of technology change, importance of security, business change involved in projects, prevalence of virtual teaming, organisational instability, and interdependence with other organisations” (Sauer & Reich, 2009, p. 184). IT project teams are expected to practice continuous adaption to develop new techniques, and everyone from the project manager to the project team members accepts that one will be learning new competences throughout the project (Sauer & Reich, 2009). The gap in project manager’s competencies is a challenge to the already challenging IT projects.

The above characteristics of IT projects are some key constituents that contribute to the relative high failure rates of IT projects.
3.2.3.  IT project management success models

With IT projects continue to underperform, many scholars have studied why IT projects failed and have proposed ways to improve IT project management (Lemon et al., 2002; Levinson, 2008, 2009; Lientz & Rea, 2001; Lyytinen & Robey, 1999; Reich, Sauer & Wee, 2008; Sauer et al., 2001; Sauer & Reich, 2009; Trauth et al., 2007). Scholars have proposed project management success models to improve the situation in the IT sector. Three models proposed at different periods are discussed below to illustrate how failure reasons and solutions change over time.

3.2.3.1.  Project management success experience from the construction industry

In 2001, Sauer et al. (2001) suggested the IT sector to refer to the success experience of construction industry and proposed a project management-centred organisational form. They described the organisational and management arrangements that support project performance and the individual and organisational capabilities that underpin sustained project success. Figure 3.1 below is the successful model in construction industry.

![Figure 3.1: Building project management capability around project performance in construction. Source: Sauer et al. (2001 Figure 1)](image)

In this Sauer et al. (2001) model, ‘organisational capability’ in project management is the “complex of organisational arrangements and management practices including the organisational structure, role design, reporting process, methods and procedures, focus and values, contracting relationships and human resource management”(p. 41). ‘Individual capability’ is the combination of crucial skills and competencies such as “planning, controlling, communicating, negotiating, problem-solving, and leading” of project managers and certain personal characteristics such as “experience, commitment, and the need to achieve”(p. 43). ‘Project conduct’ is about active support to projects such as a “strong project orientation of the structure and the appropriate assignment of authority” to project manager and project director roles, significant top management involvement with focus on performance and client results, and risk management (p. 43). In summary, this model emphasises sustainable success, not a single project’s success. Organisations running IT projects will become repeatedly successful at projects because they have developed both organisational and individual capabilities.
Four-dimensional project success model for IT organisations

The Sauer et al. (2001) model focuses on repeated project success. However, businesses are relying on IT projects for business success not just project success. In 2004, when Kendra & Taplin (2004) tried to address the question raised by the Standish Group Chaos 2000 report, which concluded that the primary reason for declining IT project success rates between 1997 and 2000 was insufficiently collaborative working relations. They based their research on a series of IT project management success factors in their literature survey to develop a four-dimensional success model on the basis of socio-technical system design concepts. It is exhibited in Table 3.1 below. The Kendra & Taplan (2004) model emphasises on business success through IT projects. The discussion in section 3.2.2 above is based on this model’s categorisation.

Table 3.1: The four dimensions of project success model for IT organisations. Source: Kendra & Taplan (2004 Table 3)

<table>
<thead>
<tr>
<th>Element Type</th>
<th>Micro</th>
<th>Macro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>Project manager skills and competencies</td>
<td>Organisational structure at the project level</td>
</tr>
<tr>
<td>Technical</td>
<td>Performance measurement systems</td>
<td>Supporting management practices</td>
</tr>
</tbody>
</table>

The social dimensions of project success are specific to the individual organisational members (people) who perform project-related work. The micro-social element (see also Section 3.2.2.4) is the project manager skills and competences, and the macro-social element (see also Section 3.2.2.3) is the project organisational design structures (Kendra & Taplan, 2004). The technical dimensions of project success are the business practices employed by individual organisational members to support project-related work. They are associated with the establishment of measurement system (metrics), which are used to evaluate organisational performance at the micro-technical level (see also Section 3.2.2.1), and the management practices (organisational business process) employed throughout the project life cycle at the macro-technical level (see also Section 3.2.2.2)(Kendra & Taplan, 2004). The mix of the macro-social (organisational structures at the project level) and macro-technical (supporting management practices) elements is similar to the ‘organisational capability’ element in the above Sauer et al. 2001 model. The micro-social element (project manager skills and competencies) is the ‘individual capability’ element in the Sauer et al. 2001 model. The micro-technical element is not explicit in the Sauer et al. 2001 model, but is implied as it focuses on active support on projects that include active project progress monitoring and performance rewards to project management career (Sauer et al., 2001, p. 45 Figure 2). On top of the four dimensions, the Kendra & Taplan 2004 model has a view on an organisation’s project culture. The four dimensions within an organisation define the individual value links that construct a project management culture(Kendra & Taplan, 2004). These links make the four elements in a socio-technical system interdependent. Changes in any element may impact the other three elements. In summary, Kendra & Taplan (2004) see that organisations need to
establish a shared set of values and beliefs (a project management culture) that aligns with the social and technical aspects of project management to achieve organisation’s business objectives.

3.2.3.3. Multiple process views of IT projects

Despite all these efforts from the academics, such as Sauer et al. (2001) and Kendra & Taplan (2004), to increase the IT project management success rate, the outcome is disappointing. IT projects’ success rate has not exceeded 35% in the last decade according to Standish Group’s long history of tracking IT project’s success rates (Standish, 1995, 2009). In 2009, Sauer & Reich (2009) referred to a recent study, called Rethinking Project Management (RPM) that has highlighted the need for a fundamental re-appraisal of project management research (Sauer & Reich, 2009). The view of the first process - action process (Sauer & Reich, 2009, p. 183) in RPM is regarded as the traditional view of project management, which is characterised by PMBOK® of PMI(PMI, 2000; 2004). RPM re-appraises project management to beyond this view and started with a new view of project complexity. It values multiple ways of constructing and interpreting what projects are about, what is going on within them, and what techniques and approaches may be appropriate for managing them. The second process - social process (Sauer & Reich, 2009, p. 183) brings projects to be viewed as involving autonomous human actions based on various human, organisational and institutional interests that combine social capability to achieve more in a group structure, such as a project, than on an individual basis. The third process is value creation (Sauer & Reich, 2009, p. 183). It makes the new goal as an organisational benefit rather than product creation. Moving to a broader conceptualisation of projects enables researchers and practitioners to flex the boundaries within which stakeholder and management action are considered legitimate and permits multiple perspectives. Thus the same project may be viewed as a success or failure from different perspectives. The fourth process - reflective practice (Sauer & Reich, 2009, p. 184) embodies a continually thoughtful and constructive re-appraisal of practice and involves experimentation to seek out better says of thinking and managing. In 2009, Sauer & Reich (2009) took the RPM framework to investigate how IT project management has been changing and why. They mentioned the “IT sector was chosen because there has been such pressure for improvement”(p. 182). They tried to articulate what the directions of RPM mean to the project managers in practice. From this study, they suggested adding two further directions – projects as a knowledge process and projects as an emotional process. Project as a knowledge process, the fifth process (Sauer & Reich, 2009, p. 189), includes knowledge creation, knowledge distribution, knowledge management and project learning. Such knowledge and learning extends beyond technology to encompass formal and informal knowledge relating to project organisation, politics, the business context, technology, and management theory and practices. Project as an emotional process is the sixth process (Sauer & Reich, 2009, p. 190). It is about factors giving rise to escalating commitment in projects. The emotional contents are the principles of deep personal identification with project goals and taking a proactive view of the project manager’s role. The suggested model is shown in Figure 3.2 below.
These three models reflect the progress of IT project management over time. IT project management has a shorter history comparing to other industries such as construction, civil engineering or defence (Kwak, 2003). It borrowed and inherited the project management practices and models from these industries. The Sauer et al. (2001) model is a good sample. However, the characteristics of IT projects as discussed in Section 3.2.2 drive IT project management to go for new arenas that emphasise the softer side of project management. Later, Kendra & Taplan (2004) add the economic process and the culture dimension (values and beliefs) into IT project management. While IT projects are essentially serving people (organisation users or customers), human capital is the dominant resource and cost of IT projects, Sauer & Reich (2009) further suggest adding the knowledge process and emotional process to IT project management.

3.2.4. IT project management capabilities

From the three IT project management success models discussed in Section 3.2.3, it is clear that the IT project management capability is not the same for that of an IT project manager’s capability. It is a combined capability of the individual and the organisation. It is about the ability to deliver value to the organisation through implementing IT projects. This also concurs with the contemporary view of the PMI. Project success may be influenced by project manager’s competence and the organisation’s project management maturity and capability (Cartwright & Yinger, 2007). In contemporary views, IT project management capabilities include some essential soft dimensions such as culture (Kendra & Taplan, 2004) and emotional factors (Sauer & Reich, 2009) that are difficult to measure quantitatively. Such difficulty also leads to the issue of how to enhance the IT project management capabilities.

What is ‘IT project management capability’? The New Oxford English Dictionary (Oxford Dictionary, 1998) defines ‘capability’ simply as “the power or ability to do something” (p. 269). Various project management methodologies and studies have defined their own terminologies on the body of
knowledge and competencies or skills related to project management (Cartwright & Yinger, 2007; Gale, 2007; OGC, 2002; PMI, 2008a). However, in a fast-moving technological environment, companies are “using IT project management skills to continually reconfigure and update their internal and external IT resources in order to support and exploit business opportunities” (L. S. Lee & Anderson, 2006, p. 30). Different organisations look for different job skills for the project manager job position (Rad & Levin, 2002a Section 4.2). Therefore, the content of IT project management ‘capabilities’ is also continuously changing. The focus of this research is on IT project management capabilities enhancement. It will not drill into specific capabilities. Thus, the simple definition of ‘IT project management capabilities’ in this thesis is the ‘ability to perform IT project management actions’.

In the body of knowledge of project management, it is common to use a maturity model to assess the project management capability (Cooke-Davies, 2007; Gresse et al., 2010; Ibbs, Reginato & Kwak, 2007; L. S. Lee & Anderson, 2006; Sukhoo, Barnard, Eloff & Van der Poll, 2007), and with the evolution of companies “from initial, immature project management practices to more repeatable, refined, managed and even more optimised project management practices” (L. S. Lee & Anderson, 2006, p. 30), there will be improved organisational performance. Various maturity models or process improvement measurements have been employed in IT project management at organisational level. The common maturity models include Capability Maturity Model Integration (CMMI)(SEI, 2010), Kerzner’s maturity model (Kerzner, 2005), Organisational Project Management Maturity Model (OPM3)(PMI, 2008b), and Project IN Controlled Environments 2 (PRINCE2) Maturity Model (P2MM)(Williams, 2009). Organisations going for quality management process standardisation may obtain qualifications from the International Organisation for Standardisation (ISO) such as the ISO:9001:2008 (ISO, 2008). At the individual level, many IT professionals seek out certifications to keep their skills sharp and to add credentials to their résumés. In 2010, the following IT related certifications ranked highly: “Cisco (Cisco Certified Design Professional, Cisco Certified Network Professional), CompTIA (CompTIA Security+), HP (HP Accredited Systems Engineer), IBM (IBM Certified Administrator), Microsoft (Microsoft Certified Professional), RedHat (RedHat Certified Technician), VMware (VMware certified professional), [...] the Project Management Professional (PMP) from the Project Management Institute the CISSP (Certified Information Systems Security Professional) certification” (Levinson, 2010, p. 45). PRINCE2(OGC, 2002), International Project Management Association Level-A, Level-B and Level-C certifications (IPMA)(IPMA, 2012), Program Management Professional (PgMP®) of PMI(PMI, 2012), Certified Professional IT (CPIT) – project director, associate project manager (HKITPC, 2012) are also common qualifications for IT project managers. However, IT certifications have been criticised for not measuring an IT professional’s business acumen, certifications only produce “IT professionals on paper” and PMI’s PMP® produces “paper project managers” (Levinson, 2010, p. 45).
On top of adapting a maturity model or process standardisation, organisations may set up a PMO to support all the projects (Block & Frame, 2001; Ellsworth, 2009; Julian, 2008; Rad & Levin, 2002a). Different organisations may implement PMOs differently. Julian’s thesis (2008) on PMO leadership says that the role of the PMO is to “provide a focal point for the discipline of project management, in some cases taking on direct responsibility for managing projects and in other cases providing consultative or administrative services to project managers, project teams and/or senior management”. The PMO may also “support at the project-level through training, consulting and mentoring to project personnel” and “support organisational continuous improvement” (Julian, 2008, p. 5). Despite the investments of maturity models, standardisations, professional certifications or establishing PMOs to improve the IT project management capabilities, IT projects still have problems to deliver results (Standish, 2009), and scholars such as Gresse, Silva, Buglione, Scheidt & Prikladnicki (2010) continue to call for establishment of effective and efficient project management practices for IT projects. They suggest a fusion of CMMI and PMBOK® to achieve the best combination of the operation and the project world. PMBOK® is about projects that are temporary and have an end; CMMI is about operational work which is “ongoing and sustains the organisations over time” (Gresse et al., 2010, p. 751). Another group of scholars, Reich et al. (2008) survey senior IT project managers as they dealt with difficult projects to look for innovative ways to rescue IT projects. They suggest IT project managers should play the role of CEO of a temporary organisation and may practice techniques that are “counter-intuitive and challenge accepted wisdom. [IT project teams should] adapt when adaptation is needed, innovate when innovation is needed, and break rules when this is required” (Reich, Sauer et al., 2008, p. 271). Peterson (2010) also says with business recovered from recession, there are huge demands for productively gains. He sees this is an opportunity for IT managers to shine. He proposes IT managers to ask 10 questions to ensure the next IT project’s success. Five out of these 10 questions are related to ‘people’ such as steering committee establishment, involving users, recognising ways people are using the technology, understanding user experience and managing user expectations. It may conclude that IT projects are still looking for better project management processes and more innovative practices especially how to tackle the ‘people’ aspect of IT projects.

From the above literature survey outcome, it is understood that enhancing IT project management capabilities to support business success has come a long way but not yet has a proven solution. This thesis is looking into the issue under the Hong Kong IT context and the specific situation where contingent employment of IT workforce is essential. The following section will explore contingent employment and its relations with IT project management.
3.3. **Contingent Employment and IT**

3.3.1. **New economy and contingent employment**

3.3.1.1. The new matrix economy
In the twenty-first century, organisations face challenges of speed and technology in the changing world. In the workplace, computer technology has changed the nature of work (Hodson & Sullivan, 2008; Matusik & Hill, 1998). Advancement in IT technology enables new reforms of management and control. IT increases visibility of production and labour processes and simulates precise coordination across firm boundaries with a flatten management hierarchy and less middle management (Benner, 2002d). It increases productivity, creates new jobs, increases the pace of change and gives rise to potentially faster economic growth. Technology also deskills some workers, displaces others (Hodson & Sullivan, 2008) and creates globalisation (Benner, 2002d; McMorrow, 1999; Nesbit, 2005) and increases competition in the world economy (Benner, 2002e; Fuchs, 2002; Hodson & Sullivan, 2008). In this new economy, more technology organisations (including those in the IT sector) move toward a projectised organisation structure (Barley & Kunda, 2004g; Devine, 2011), outsource their work and are dependent on external firms and workforce to complete tasks (Benner, 2002d). Barley & Kunda (2006) name this kind of new economy as matrix economy. The “image of a matrixed economy draws inspiration from the ‘matrix’ form of organising that [has] diffused across most high-technology industries [...] In a [typical project] matrix structure, technical professionals are typically assigned to functional areas [and] technical employees are assigned to one or more separately managed projects that cut across functions for limited periods of time”(p. 58). In the matrixed economy, “firms play the role of projects, and occupational communities or communities-of-practice [CoP] play the role of functions”(p. 59). Functional managers use to recruit, train, evaluate and develop professionals; develop codify and maintain the organisation’s body of expertise. In the matrix economy, “[...] the occupational needs of the itinerant professional—learning and maintaining professional expertise, finding clients, and ensuring long-term economic security—are handled by outside firms through a combination of individual initiative, professional associations, occupational networks, and for-profit ventures”(p. 59).

3.3.1.2. The new employment relationship
The new economy is driven by organisational restructuring, downsizing and outsourcing (Barley & Kunda, 2004g; Peel & Inkson, 2004; Webster, 2005). It is characterised by flexible employment (Benner, 2002d; Fuchs, 2002; Söderlund, 2011), innovation and marginal employment (Hodson & Sullivan, 2008), dual employment strategy – core and non-standard employment (Benner, 2002d; Nesbit, 2005), and outsourcing (McMorrow, 1999). These organisational strategies have one common element, which is contingent employment. This is supported by what Peel & Inkson (2004)
conclude that “[the] growth in contingent employment arrangements has been one of the most significant human resource trends in recent times (Belous, 1989; Marler et al., 2002)”(p. 542).

The Hatton (2011) study uses the “phrase [contingent work], coined by Freedman in the mid-1980s and generally refers to any employment relationship that departs from the standard of full-time, full-year, fixed schedule, single employer work”(p. 11), but the history of temporary work started much earlier “since the late 1940s when the first modern temp agencies were founded”(p. 12). Contingent employment is defined a category of workforce that includes those who do not have explicit or implicit contracts to stay with an organisation for an indefinite period of time (Redpath et al., 2007). The contingent workforce may consist of independent contractors, temporary workers, part-time workers, leased workers, self-employed individuals, home-based workers, individuals brought in through employment agencies, on-call or day labour, and workers on site whose services are provided by contract firms (Barley & Kunda, 2004d; Focus, 2006; Gregory, 2001; Matusik & Hill, 1998). Recent trends show that new organisations may adopt many forms of employment at the same time. According to Lepak et al. (2003), an organisation may simultaneously have four types of employment: (i) knowledge-based employment (an internal employment arrangement; employees possess specialised skills that are critical)(p. 682), (ii) job-based employment (employees are acquired from the labour market; skills are not specific; they meet clear performance objectives for a well-defined range of tasks)(p. 683), (iii) contract work (external individuals are contracted to perform tasks with limited scope, purpose and/or duration)(p. 683), and (iv) alliances/partnerships (independent/autonomous external parties that have established ongoing partnership; applying specialised knowledge to perform tasks in some customised capacity)(p. 683).

For the variety of contingent employment arrangements described above, they are in a ‘triangular’ (worker-agency-client) employment relationship (Benner, 2002b; Gallagher, 2002; Gonos, 1994) – a new employment relationship, not the traditional employer-employee one. Three parties are involved – the itinerant expert (worker), the intermediary (agency), and the employer (client). Benner (2002a) sees the rising of contingent employment has led to the new feature of the labour market – “the existence of a wide range of organisations that act as intermediaries between employers and workers”(p. 84). With the expansion of contingent employment, there are a wide variety of other organisations acting as intermediaries in the labour market other than agencies. Head-hunters, recruiters, contractor brokers, internet-based intermediaries, unions, community organisations, and a wide range of public sector and education based intermediary programmes are all examples of intermediaries. Agency or temporary agency is the most visible and well-known type of labour market intermediary. In reality, the number of agencies employing contingent workers for clients expanded tremendously in the last decade; “the biggest employer in the US is no longer General Motors but Manpower, a temporary agency employing some 600,000 people. There are 6,000 temporary companies in the US double the number of a decade ago”(Low, 2002, p. 131).
A literature survey on the survival on the new forms of economy has pointed to new directions of organising in the new economy. The contingent employment trend has been described as growing or widespread by various scholars and practitioners (Baker, 2012; Barley & Kunda, 2004f, 2006; Belous, 1989; Benner, 2002e; Gonos, 1994; Hatton, 2011; Low, 2002). However, in the process of surveying literature of this research, there is little or no statistics found on how widespread the contingent employment trend is in the IT sector. Scholars researching in this knowledge area (Barley & Kunda, 2004g; Low, 2002; Webster, 2005) also see that there is a significant level of contingent employment in computing but cannot collect statistical data on this aspect of work in all countries. Thus there is limited research from the contingent employment aspect in relation to IT project management capabilities enhancement. This research is trying to contribute in this area.

3.3.2. **Advantages of contingent employment**

3.3.2.1. **Organisations’ advantages**

Organisations that create different forms of contingent employment may have various rationales behind this approach. The ultimate goal is to survive in the dynamic and competitive economy. From an organisation or employer perspective, contingent employment brings in numerous benefits. **Cost** is the mostly mentioned incentive by scholars and practitioners (Allan & Sienko, 1998; Barley & Kunda, 2004d; Gregory, 2001; MacDougall & Hurst, 2005; Matusik & Hill, 1998; Redpath et al., 2007). Employing contingent workers drives down labour costs (Gregory, 2001; Matusik & Hill, 1998), cuts benefit and training expenditures (Allan & Sienko, 1998; Barley & Kunda, 2004d), reduces the price of laid off employees (Barley & Kunda, 2004d; Matusik & Hill, 1998) and infrastructural costs of employment (Barley & Kunda, 2004d). **Flexibility** is another major incentive to organisations. Hiring contingent workers is temporary, and this gives organisations the flexibility in managing fluctuation of demand (Gallagher, 2002; Matusik & Hill, 1998), reducing or expanding workforce (Matusik & Hill, 1998), avoid tackling the rigid hiring and filing rules of permanent employees and minimising the impact on downsizing (Allan & Sienko, 1998). This is benefit of numerical flexibility. The other benefit is functional flexibility. Organisations can acquire the right mix of human capital according to their needs (Barley & Kunda, 2004d; Gallagher, 2002). Lower cost and higher flexibility help organisations to respond quickly to changing market conditions and better return on investment (Matusik & Hill, 1998; Redpath et al., 2007). The third benefit of contingent employment is having the flow of knowledge (Allan & Sienko, 1998; Barley & Kunda, 2004d; Gregory, 2001; MacDougall & Hurst, 2005; Matusik & Hill, 1998). With contingent workers joining and leaving organisations, they disseminate what they know to the competitors and bring valuable knowledge and skills into the firm (such as technical expertise that is difficult to develop in-house in a short period of time)(Barley & Kunda, 2004d). Furthermore, Matusik & Hill (1998) classify knowledge into public and private knowledge. ‘Public knowledge’ consists of knowledge not unique to any one organisation but resides in the external environment. It includes industry and occupational best practices. ‘Private knowledge’
is unique to the firm and a source of competitive advantage. Contingent employment helps organisations to focus the company on core competences (Gregory, 2001). With contingent workers, the company’s knowledge-based employees (internal ones possessing critical skills) (Lepak et al., 2003) can utilise firm-specific private knowledge to win the keen market competition. Simultaneously, contingent workers bring in public knowledge that creates a stimulus to internal employees. They cross fertilise and build new private knowledge (MacDougall & Hurst, 2005). In addition, it can provide the access to network of contingent knowledge workers and obtain the relational benefits and develop the knowledge bank that integrates the public and private knowledge (MacDougall & Hurst, 2005). The fourth benefit is acquiring skills for hiring organisations. Contingent workers are hired because they possess expertise that the employers require. Some valuable performance-enhancing or specialised knowledge and skills are thus imported (Gregory, 2001; MacDougall & Hurst, 2005; Matusik & Hill, 1998). They may be just-in-time expertise possess skills that permanent staff lacks to play the roles as teacher (‘hired gun’) and gurus; they may just helping hands (‘warm bodies’) to get the work done for the numerical flexibility (Barley & Kunda, 2004d; Gallagher, 2002). The fifth benefit is resolving the constraint in budgets and headcount (Barley & Kunda, 2004d; Cassidy & Cassidy, 2010). Headcount is one of the key measurements in most organisations. Organisations set headcount ceiling to manage performance as full-time employees are counted as fixed cost. However, contractors or contingent workers are hired as a variable cost. Under the pressure to control IT budgets (Cassidy & Cassidy, 2010; Gartner, 2012) especially under recent turbulent economic times, organisations prefer to hire the contingent workforce as per budget availability instead of committing permanent employment. Moreover, a project manager usually has little formal authority over permanent employees especially in a balanced matrix or projectised organisation structure (PMI, 2008a Figure 2-9), but contingent workers normally work solely for the project manager. This is an incentive for organisations to hire contingent workers on projects (Barley & Kunda, 2004d). The sixth benefit is screening (Allan & Sienko, 1998; Barley & Kunda, 2004d; Gregory, 2001). Certain employers utilise contingent employment as part of their hiring strategy to get a chance to preview a worker’s ability and work habits before committing to hiring them in a regular position (Allan & Sienko, 1998; Gregory, 2001). It is treated similarly to probation and eliminates disputes before hiring a permanent employee (Barley & Kunda, 2004d). The seventh benefit of contingent employment is filling unfilled positions and undesired work (Barley & Kunda, 2004d). Some “permanent staff prefer not to do [certain work such as] working on legacy systems [...] maintaining software and hardware or developing reports for clients”(p. 48). The other situation is the skills required are not available in-house. Contingent employment is a resolution to have the right skills to complete the undesirable work or fill unfilled positions.

The seven advantages of contingent employment to organisations are summarised in Table 3.2.
3.3.2. Contingent workers’ advantages

The employer is not the only beneficiary of contingent employment, but also the contingent workers benefit. They experience career and personal development by accumulating diverse competencies through a variety of work and assignments and working in different organisations, industries and projects (Barley & Kunda, 2004e). Contingent work can also be rewarding and enjoyable (Peel & Inkson, 2004). In addition, contingent employment provides flexibility and autonomy to individuals. Contingent workers have boundary-less careers and freedom of choice. They have higher autonomy and flexibility, higher mobility, and better control over their own activity. They can adjust work commitment to fit their personal circumstances. They also have the advantages over permanent employees in terms of avoiding company politics and having less commitment to the organisation (Allan & Sienko, 1998; Barley & Kunda, 2004e; Peel & Inkson, 2004; Redpath et al., 2007). The opportunity of having higher wages that are due to their specialised skills (Barley & Kunda, 2004e; Redpath et al., 2007) is also attractive to contingent workers. Moreover, it is the opportunities for contingent workers to experience working in large multinational company environments or desired organisations (Barley & Kunda, 2004e) and add knowledge and value to their curriculum vitae (CV) (Chaturvedi, 2010). These four advantages of contingent employment to contingent workers are summarised in Table 3.2 below.

3.3.3. Disadvantages of contingent employment

3.3.3.1. Organisations’ disadvantages

Contingent employment, of course, has its drawbacks that organisations need to recognise. Organisations obtain public knowledge from contingent workers. In the same token, there is chance of leaking private knowledge to the public domain or competitors. Private knowledge leakage may lead to imitation by competitors and may involve losing its differential or cost advantage (Matusik & Hill, 1998). Secondly, cost is major incentive in hiring contingent workers. However, organisations may pay a highly hourly rate or more money to contingent workers because they do not pay for their benefits (Matusik & Hill, 1998); they also pay a premium to acquire the right expertise (Redpath et al., 2007). Thirdly, the attitude and work quality of contingent workers may be a hidden cost of contingent employment. Contingent workers may be less devoted to the company and to productivity. There is also a potential production and management efficiency issue (Focus, 2006; Gregory, 2001; Labovitz, 2005; Matusik & Hill, 1998). Performance of contingent workers may decline as their termination day approaches. Loss of skills, knowledge and experience (T. Hall et al., 2008); loss in continuity and quality; and difficulty in implementing process improvement are common issues. Last but not least, the management of contingent workers is problematic. The on-and-off nature of contingent workforce makes the hiring and retention work difficult. Hiring managers may not be human resource personnel and do not have the knowledge about hiring contingent workers and managing their responsibilities (Focus, 2006). How to blend the contingent workers with the core workers to avoid avert mistrust, poor working relationships, or conflict is a specific management issue.
caused by the contingent employment (Allan & Sienko, 1998; Labovitz, 2005). Organisations may need to handle the negative effects on regular employees (Labovitz, 2005). These four disadvantages of contingent employment to organisations are summarised in Table 3.2 below.

### 3.3.3.2. Contingent workers’ disadvantages

From an employee perspective, there are numerous disadvantages as a contingent worker. The first concern is the lack of career development. Organisations do not look after the careers of contingent workers (Peel & Inkson, 2004), give opportunities to them to get the experience or pay for training necessary to progress to the next level of proficiency. Moreover, they are normally contracted to work on the same job. There are fewer opportunities to develop management skills compared to permanent employees. Career plateau is a common phenomenon (Peel & Inkson, 2004; Redpath et al., 2007).<br>
Contingent employment is a fit-for-now, not a good long-term career fit. Contingent work is not a preferred working condition to many contingent workers (Redpath et al., 2007). The second disadvantage is the absence of training and development provided by organisations. Contingent workers are hired for their specialised skills and knowledge. Employers do not have training or development funding nor any longer-view investment in these workers. This leads to the absence of formal training opportunities. On the other side, contingent workers are required to maintain and enhance their skills to secure the employment (Peel & Inkson, 2004; Redpath et al., 2007). This brings the third disadvantage: job insecurity and instability. Contingent work by nature links to risk of unemployment, job insecurity and employment uncertainty (Allan & Sienko, 1998; Gregory, 2001; Peel & Inkson, 2004; Redpath et al., 2007; Webster, 2005). Contingent workers have little control over the length of their contracts (Redpath et al., 2007). They always have to deliver high performance to ensure future employability and fear of job insecurity (Redpath et al., 2007). They may keep changing jobs and workplaces (Peel & Inkson, 2004). Contingent workers may find this costly and tiring. They may be unable to balance work and family or personal lives because they must move to follow job opportunities. Some are frustrated without any paid vacations and have little time off (Redpath et al., 2007). Contingent employment also makes it difficult for these workers to control their financial planning such as obtaining long-term financial commitments or securing access to credit (Gregory, 2001; Redpath et al., 2007). Life is less predictable, with lower stability, and more changes (Peel & Inkson, 2004). The fourth disadvantage is the lack of sense of inclusion. Contingent workers may feel their status is a secondary one of being not as important as regular employees (Gregory, 2001). They often are excluded from organisational events, and they are not considered part of the employer family (Allan & Sienko, 1998; Peel & Inkson, 2004). Lastly, contingent workers may believe they have a lower pay level, less benefits and less desirable working conditions compared to permanent employees (Gregory, 2001; Hipple & Stewart, 1996). Contingent workers’ pay level may or may not be lower than regular permanent workers. It depends on factors such as educational attainment, occupation, employment tenure or work schedules (Bidwell & Briscoe, 2009; Hipple & Stewart, 1996). However, they perceive to have lower pay level may be because they receive much
lower benefits. Scholars commonly agree that contingent workers receive fewer benefits such as health benefits, retirement, vacation or training and development (Bidwell & Briscoe, 2009; Hipple & Stewart, 1996; Jaarsveld, 2004) compared to regular permanent workers. It is an area that has driven the establishment of alliances of contingent workers to bargain for better working conditions and benefits (Jaarsveld, 2004). The five disadvantages of contingent employment to contingent workers are summarised in Table 3.2 below.

Table 3.2: Advantages and disadvantages of contingent employment

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Organisation perspective</th>
<th>Contingent worker perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Cost;</td>
<td>1. Career and personal development;</td>
</tr>
<tr>
<td></td>
<td>2. Flexibility;</td>
<td>2. Flexibility and autonomy;</td>
</tr>
<tr>
<td></td>
<td>3. Acquiring skills;</td>
<td>3. Higher wages; and</td>
</tr>
<tr>
<td></td>
<td>4. Flow of knowledge;</td>
<td>4. Add knowledge and value to curriculum vitae (CV).</td>
</tr>
<tr>
<td></td>
<td>5. Budgets and headcount;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Screening; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Unfilled positions and undesired work.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disadvantages</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Leakage of private knowledge;</td>
<td>1. Lack of career development;</td>
</tr>
<tr>
<td></td>
<td>2. Higher pay to contingent workers;</td>
<td>2. Absence of training and development;</td>
</tr>
<tr>
<td></td>
<td>3. Attitude and quality concerns; and</td>
<td>3. Job insecurity and instability;</td>
</tr>
<tr>
<td></td>
<td>4. Management of contingent workers.</td>
<td>4. Lack of sense of inclusion; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Lower pay, benefits and working conditions.</td>
</tr>
</tbody>
</table>

3.3.4. **Contingent IT professionals and project managers**

IT is among the most fast-paced industrial sector and “changes in the IT sector were most frequently related to the unpredictable nature of the work due to technological developments [...] no firm can actually promise that the work you are doing today will remain the same tomorrow”(Loogma et al., 2004, p. 336). Therefore, even large corporations such as IBM, HP and AT&T are “making continued employment explicitly contingent”(Rousseau & Arthur, 1996, p. 247). Recent industrial reports also confirm that the demand for IT temporary workers is expected to outpace permanent employment (eWeek, 2007), and temporary employment may grow three times as fast as total employment over next decade (Newswire, 2007). According to the US Newswire (2007), “strong demand for IT workers to continue with no end in sight. The top five occupations expected to experience the largest annual growth in temporary employment in the coming decade are all information-technology related”(p. 1).
The challenge of IT skill shortage (Holland et al., 2002; T. Sullivan, 2008) also has no end in sight. IT workers are so much in demand that they are even code named as ‘gold-collar workers’ (Holland et al., 2002). Holland et al. (2002) see the shortage of IT skills combined with the trend of contingent employment as a major concern for organisations in developed economies. Sullivan (2008) has a similar concern over the situation of project managers. Sullivan (2008) argues that the competition for project managers is similar to that of IT workers; organisations are seeking to hire project managers from one another. Sullivan (2008) sees that "[you may] call it sharing, stealing, enticing – [but] we all have to go to the same pool to get people. You have to raid your competition and they do the same" (p. 54). There is only one pool of project manager in any economy; the trend of having project manager employed on contingent terms is risky. He sees "[…] more companies [employ] contracting project managers for the duration of a project instead of making them part of the staff […] along with all this new-found popularity comes the danger of project management becoming a victim of its own success" (T. Sullivan, 2008, p. 58). The fact is IT project managers are in demand but in short supply; and the contingent employment trend is also observed in this group of professionals. This phenomenon needs further analysis and needs to find ways to enhance IT project management capabilities. Section 3.4 below will discuss these issues in more detail.

Another interesting finding in this literature survey regards who the contingent IT professionals are. One of the advantages to organisations hiring contingent IT workers is ‘acquiring skills’ (see Section 3.3.2.1). Contingent IT professionals are expected to be knowledgeable and be able to perform the tasks (Gregory, 2001; MacDougall & Hurst, 2005; Matusik & Hill, 1998) without much training and development. However, as Bidwell & Briscoe (2009) state, there is a ‘U-shape probability of contracting’. Contracting (or contingent employment) is either associated with the lowest level of experience or workers who gain high levels of experience. The most inexperienced workers find it more difficult to obtain regular employment than contingent jobs. They have difficulties persuading employers to hire them with a “lack of work histories [and] lack of networks of former employers and coworkers who can provide potential employers with credible information of their skills and behaviour” (p. 1152). Workers with high levels of experience have less need for further training. They are likely to possess project management, process management or business-related skills that change more slowly than technical knowledge. They value “employer-provided development less than workers without high skill levels [and are] more likely to prefer contracting [contingent] jobs” (p. 1152).
3.3.5. IT specific characteristics fit contingent employment

Use of contingent workers is common in IT industry, and IT contractors are often seen as archetypal, highly skilled, independent professionals (Bidwell, 2009, p. 201).

From the discussion Section 3.3.1, in the new economy with advancement in technology, organisations are restructured. Barley & Kunda (2004g) see there is a collapse of bureaucracy; new forms of organising are emerging: virtual organisations, shamrock organisations, network organisations, boundaryless organisations and lean structures. One of the underlying trends is “more and more organisations are turning to project teams as a model for organising production activities” (p. 304). Devine (2011) also agrees that more technology organisations move toward a projectised organisation structure. With the establishment and closure of IT projects, the demand for IT skills and capacity fluctuate; project structures account for organisations’ expanding use of contingent workers (Barley & Kunda, 2004g) in the IT sector.

From the discussion in Section 3.3.4 above, it is clear that the IT sector is increasingly utilising contingent workforce including project manager roles. Although some scholars express their concerns on reliance on contingent employment (see Section 3.3.3), the findings from Gregory (2001) see that the IT industrial sector has some specific characteristics that make it desirable for contingent employment strategy. These specific characteristics are:

1. Different pay rates: Contingent IT employees receive more than regular IT employees but less, if any benefits; however, this is not a major concern of contingent IT workers;
2. Focus on core competencies: IT services are not directly related to the main processes of a company; contracting in IT staff saves money;
3. Acquiring specialised skills: IT skills are complex and change rapidly; it is advantageous to contract IT functions out to avoid the need for extensive, on-going training of IT workers that requires keeping up-to-date; IT skills are non-firm specific making them easily transferable; and
4. As part of a hiring strategy: the IT sector experiences high demand and a low supply of workforce with complex IT skills; organisations see that IT professionals are less likely to be interested in regular employment without some other non-pecuniary inducements (pp. 21-23).

Gregory (2001)’s view above about contingent employment in IT may not be totally agreeable such as benefits is a major concern of many contingent workers (see Section 3.3.3.2), and IT is more embedded into business processes (see Section 3.2.2.2). Nevertheless, scholars and practitioners agree that IT professionals’ loyalty is owed less to their employer than it is to their career or occupation; they can be highly mobile and lured by new jobs, which offer technical challenges or opportunities for self-development (Barley & Kunda, 2006; Gregory, 2001; Holland et al., 2002). The high-skilled contingent employees will manage their own careers, direct their own training and
development for a broader range of skills, and accept greater role ambiguity and responsibility (Bidwell & Briscoe, 2009; Holland et al., 2002).

All these findings indicate IT is an industry especially on project dominant situations that contingent employment is a good fit despite of these disadvantages (see Section 3.3.3).

3.3.6. **Future of contingent employment**

By analysing the views of scholars and practitioners on advantages and disadvantages on contingent employment, it can be observed that contemporary research on contingent employment (not limited to the IT sector), scholars and practitioners tend to see the widespread use of contingent employment trend will continue and should seek ways to make contingent employment resource strategy a success (Chaturvedi, 2010; CTHR, 2009; Goldsmith, 2007; Lepak et al., 2003; MacDougall & Hurst, 2005; Manpower, 2009b; Redpath et al., 2007). Some examples are: Chaturvedi (2010) sees contractors offer answers to growth challenge; Manpower (2009b) and CTHR (2009) call employers to unlock the potentials of the contingent workforce and evolve talent strategies that leverage contingent workers as accelerators to increase speed of execution and competitive advantage.

In the context of IT, from the discussions in this section, it may be concluded that the twin phenomena – strong demand for IT talent (including project managers) and growth in temporary contingent employment co-exist and impact each other in the IT arena. Enterprises and practitioners in the IT sector have to face the reality of accepting contingent employment as a way of life and learn to survive in the context.

3.4. **Enhancing IT Project Management Capabilities**

People generally agree that IT is a knowledge-intensive industry. It means professionals practicing in IT industry are well trained in a variety of disciplines. At the same time, IT is by far one of the most learning-intensive industries of today. Its practitioners are required to continuously upgrade their skills throughout the career life. This constant requirement of new skills in the IT industry has resulted in the regular displacement of old job categories and the creation of new ones (HKCS, 2007, p. 4).

The Hong Kong Computer Society stresses that IT is a ‘learning-intensive’ industry. Learning IT project management may be ever harder as IT project management success models (see Section 3.2.3) because it includes softer elements (Kendra & Taplan, 2004; Sauer & Reich, 2009) such as culture dimensions and emotional processes. For the IT project management success models discussed in Section 3.2.3 above, each has its own emphasis. However, no matter whether the view is from an operational perspective or from a more social perspective; IT projects involve the knowledge of humans and organisations (Kendra & Taplan, 2004; Sauer et al., 2001; Sauer & Reich, 2009) that
form part of the projects. This section will analyse IT project management capabilities enhancement from an individual learning perspective and from an organisational learning perspective.

### 3.4.1. Project manager career development

- **40% of organisations have no career path for project personnel**
- **30% of organisations have an informally defined one**
- **20% of organisations have a formally defined career path**

Huemann, 2008 (Source: Turner(2009, p. 32))

When looking at the Hong Kong IT context regarding the Hong Kong IT workforce (see Section 2.4), becoming a project manager may be a preferred career path of IT professionals. However, a project manager career path is untraditional, and a large percentage of organisations do not have a formal career path for project personnel (Turner, 2009). Project managers rarely climb the ladder up the functional path. Some scholars see that project management path is a spiral staircase career (Huemann, Keegan & Turner, 2007; Keegan & Turner, 2003; Turner, 2009). Before taking a project manager position, one should have a broad range of experience; development should be undertaken broadly as it is a sweeping career; and one may need to be exposed to multiple functions, projects or roles. Organisations expect an individual to excel in multiple functions and roles prior to assuming a project manager role.

Climbing up such a spiral staircase takes time and experience and not every professional in an industry can become a project manager. In 2009, PMI published a study on talent gap on project management (PMI, 2009). IT (or IS) is one of the projectised industries facing this talent gap problem with the aging workforce globally. There is growth in project-oriented employment, but there is an insufficient supply of experienced project managers. According to this PMI (2009) study, 30% PMI membership would retire in the next decade. From this perspective, the future of the IT project manager as a career seems promising for the younger generation. From another perspective, in a fast moving industry like IT, middle aged people are vulnerable to face a mid-career crisis. Brandel (2010) see by 2020, IT professionals from the Gen X’ers and boomers will face the biggest challenge of their career. The new technologies are going to be vastly different. If this group of IT people cannot invest enough to retool themselves, they may be obsolete (Loogma et al., 2004). Opportunities go to the younger generation. However, the issue for the new generation is they are not ready. PMI (2009) indicates that project management is still a young professional, it has not yet caught enough awareness of its importance among the growing generation of students and workers. The situation of IT project is not satisfactory as formal IT project management training is still in a catch up mode (Brandel, 2010) (see Section 3.4.2.2). Ladika (2008) urges “organisations to prepare now by placing greater emphasis on developing career paths, offering continuing education and training and providing opportunities for advancement. Those who don't, do so at their own peril”(p. 52).
However, learning is more an individual act in IT, especially with increasing number of contingent employment or independent contracting. Sullivan (2004) urges individuals to be self-mentored as employers have taken less of a caretaker role, and employees have become much more responsible for their own care in the last few decades. IT professionals have to take care of their own capability enhancement including project management capabilities. In particular, Barley & Kunda (2004b) see that contingent IT workers “need to worry more about obsolesce and learning than did permanent employment” (p. 246) because it is “important to stay marketable, [...] maximise employability and minimising risk” (p. 250).

### 3.4.2. Formal and informal PM learning

During the literature survey on the career path of project managers, it is still common to find people becoming project managers accidentally, not intentionally in the field (Baccarini, 2006; Ensworth, 2001; Graham, 1992; Pinto & Kharbanda, 1995; J. Sullivan, 2009; Turner, 2003). Some scholars have called for better methods to educate project managers (Pinto & Kharbanda, 1995), while others see learning is owned by individual and should be self driven (J. Sullivan, 2004). With the popularity of the internet, there are new ways of learning or collaboration through the internet (Barley & Kunda, 2004b; K. G. Brown, 2005; Merriënboer, Jochems & Koper, 2004; Tynjala & Hakkinen, 2005). From the literature surveyed, individual acquiring project management capabilities can be summarised as going through both formal and informal paths.

#### 3.4.2.1. Informal learning

“Researchers discovered that up to 70 percent of learning actually takes place informally” (N. Day, 1998, p. 31). Informal learning is definitely essential to most IT project managers or to-be-project-managers.

**Challenging work and on-the-job learning:** Similar to Silicon Valley engineers, IT people “seek challenge, variety and change in the contracts undertaken, enabling not just personal stimulation but the development of new career-relevant skills” (Peel & Inkson, 2004, p. 554). Webster (2005) also sees “On-the-job learning and skills maintenance are considered critical in the IT professions” (p. 5). IT people look for jobs where they have “learning from colleagues and problem solving” (Loogma et al., 2004, p. 336) opportunities so as to enhance their marketable skills. Contingent workers have to acquire skills while continue working; this is part of their work (Barley & Kunda, 2004b). Moreover, in the new economy, Hall & Kahn (2002) see that “the best resources for career development and learning [are] work challenges and relationship with other people (D. T. Hall & Associates, 1996; McCall, 1998)” (p. 53).
Marketable skill learning: A person’s work life may be covered by one series of career stages and has moved away from an era of the one-life-one-career imperative (D. T. Hall & Kahn, 2002). The employer and employee relationship is dynamic and “occupational commitment is likely to replace organisational commitment” (Loogma et al., 2004, p. 325). An individual “assesses his or her career opportunities and may change occupations and jobs in order to remain competitive in the labour market” (Loogma et al., 2004, p. 325). IT project managers, especially if contingent employed, are keen on learning marketable skills in their profession. For example, when certain industries such as banking and finance have high demand, they will pick up these industries’ domain knowledge to be marketable. Nevertheless, "[..] making choices about what to learn was risky; it meant betting on the future” (Barley & Kunda, 2004b, p. 248).

Communication networks: Learning through support networks and communities are common in IT (Huemann, Turner et al., 2007). IT people are those who always connect to the internet world. “The IT sector informal communication networks such as virtual and web-based communities play a significant role in creating professional belonging and enhancing self-development. These kinds of informal communities give a sense of togetherness as ‘IT people’ and provide a platform for problem solving and learning” (Loogma et al., 2004, p. 332). In the internet world, there are local user groups; IT professionals can communicate with one another on “focused knowledge” (Barley & Kunda, 2004b, p. 257). It is like the ‘support group/network’ developmental relationships described by Hall & Kahn (2002) where “formal or informal group of individuals who join around common characteristics, interests, goals, or visions and provide meaningful personal and professional support to its members” (p. 54). The IT workforce acquires information on what to learn and actually learns from these communication networks. For IT workers, especially contingently employed ones, with frequent job changes, they have a network of colleagues, customers and employment agencies. Such channels provide them labour market information and the latest marketable skills needed. This is a form of social capital (Nahapiet & Ghoshal, 1998) (see also Section 3.4.6.1). Human capital (technical skills and social skills) and social capital (networks) are as essential to contingent workers’ professional development (Barley & Kunda, 2006).

Self study and e-learning: Today, IT people all rely on the internet to learn informally. Sauve (2007) states that “study from Forrester Research detailed the rise on social computing-interactions continued [...] its impact on e-learning indicates that more than 80% of adult learning takes place outside the classroom” (p. 22). It is common to look for solutions to problems on the internet and intranet for IT people and project managers. They may read technology books and manuals or set up a technology centre at home to practice new technologies (Barley & Kunda, 2004b). This is basically self-study and learning independently (D. T. Hall & Kahn, 2002).
Mentoring and coaching: Mentoring, coaching and providing feedbacks are methods adopted for the development of project management personnel (Huemann, Turner et al., 2007; Kerzner, 2009). According to Hall & Kahn (2002), ‘mentoring’ is an intentional relationship focussed on developing self of relatively unseasoned protégé through dialogue and reflection, implicit focus on development of next generation in context of interpersonal relationships; ‘coaching’ is an “intentional relationship focussed on developing specific developmental objectives in regards to relative junior organisation member” (p. 54). The mentor-protégé relationship is described as the most powerful developmental relationship by Hall & Kahn (2002). It “provides both task learning and social-emotional learning that affects the person’s adaptability and identify over a long period of time”; coaching aims “helping the learner with his or her learning agenda […] that are more limited than in a mentoring context” (p. 56). Mentoring and coaching learning can be formal or informal establishments. From literature reviews, ‘mentoring the project-related personnel’ is found to be a project management office function (Kerzner, 2009; Rad & Levin, 2002b).

Job rotation: Project management knowledge and experience can be accumulated through job rotation within the project or programme, between projects, and to other organisations (Huemann, Turner et al., 2007). One of the advantages of being a contingent worker is the freedom to choose jobs that provide opportunities to access knowledge or technology one wants to learn and does not know (D. T. Hall & Kahn, 2002). They can manage their own job rotation to extend skills in the desired direction.

Learning through intermediaries:
In the new economy, a wide range of intermediaries have been established in the labour market (see Section 3.3.1). They should be able to play a role in developing the project management capabilities. Benner (2002b) states that ideally a comprehensive, ‘best practice’ intermediary “would focus on building appropriate cross-firm learning environments, providing a combination of technical, communication, and problem-solving skills to help new-comers integrate into existing ‘communities of practice’ in various workplaces. It would provide a variety of support services and on-the-job assistance […] It would also have the leverage to change the demand side of the labour market, organising groups of employers to improve employment relationships and work practices, while also providing greater resource to invest in the regional workforce” (p. 247). Contingent workers should look for intermediaries that can provide skill development for better employability.

3.4.2.2. Formal learning
Formal qualification cannot guarantee employability but it is important. Nerland & Jensen (2007) agree that “strategies for securing employability may take the form of a more formal approach to learning” (p. 267).
Certifications: Obtaining professional certifications is a way to reflect the maturity in skills of certain knowledge areas (see Section 3.2.4). Multinational companies and providers of new technologies offer certifications for working with their technologies. IT professionals may self-study or attend formal classes (including e-learning mode classes) to take examinations and obtain professional certifications. These emerge as important prerequisites for obtaining external work contracts (Nerland & Jensen, 2007) for contingent workers. For generic project management certification or credentials, the popular programmes are PMP® (PMI, 2008a), PRINCE2 (OGC, 2002), IPMA Level-A, Level-B and Level-C certifications (IPMA, 2012) and PgMP® (PMI, 2012). For IT-specific project management certifications, the Hong Kong Institute for IT Professional Certification pioneered the first local IT professional certification scheme in 2007 (see Section 2.4.6.3). Project Director - CPIT (PD) was launched in 2007, and Associate Project Manager – CPIT (APM) was launched in 2009 (HKITPC, 2009).

Formal education: Loogma et al (2004) see “formal education is still very much appreciated […] although it is not necessarily a precondition for a future career in the [IT] sector”(p. 333). Unfortunately, Perelman (2007) finds that “CIOs argue, and complain that educational institutions are not putting adequate focus on these skills through coursework”(p. 1). Most undergraduate programmes are not designed to educate undergraduates to be project managers (Dulaimi, 2005). In a study on how university professors teach project management for information systems, Reif and Mitri (2005) find that “over 200 faculty members […] reported they are teaching PM components in various [undergraduate] courses, with just 25% teaching an entire course dedicated to PM”(p. 134). Brandel (2010) also shares such view; she finds “colleges are in continual catch-up mode and have only recently added project management and soft skills training to computer science programs”(p. 22). This is similar to the finding in Hong Kong (see section 2.4.6.1) that IT or software project management is consistently excluded from the core course lists in IT related bachelor degrees of local universities, and only 15% of post-graduate programmes related to IT have such a course taught as core course.

In-house project management training: Organisations running IT projects seriously are likely to design or adopt a certain project management methodology and run in-house project management training programmes (Robb, 2007). Such training programmes may be conducted face-to-face or through e-learning media. Those organisations with a PMO set up may make it the PMO’s responsibility to develop and maintain a project management methodology and train people in this methodology (Rad & Levin, 2002a). However, under the dynamic economical environment, Hall & Kahn (2002) see that “with no end to downsizing in sight, organisational expenditures for […] formal training and development programs will continue to be difficult to justify”(p. 52).
3.4.3. Contingent employment and individual learning

Contingent IT people have two important differences from permanent IT employees: job security and employer-provided training (Bidwell & Briscoe, 2009). They may learn the capabilities the same way formally and informally like any IT employee. However, it is unlikely that they will have in-house training, which is considered as an investment only available to permanent staff (Gregory, 2001; Hodson & Sullivan, 2008; Rousseau & Arthur, 1996). Factually, with the downturn in the economy, the training budget is typically the first to cut. It is pessimistic that organisations will invest in the contingent workforce. Nevertheless, the contingent workers "[..] had redefined job security to mean the ability to find their next job"(Barley & Kunda, 2004c, p. 275). They should keep up their marketable skills for employability (Peel & Inkson, 2004). Nerland & Jensen (2007) state the criticality of learning and employability in IT industry. They say “concern for 'staying in' the labour market, and a strong interest in seeking new knowledge emerges as crucial in their [computer engineers] employability strategies”(p. 267). With the form of contingent employment or self-employment, the responsibility of one’s own professional development has transferred to the individual (Loogma et al., 2004). These IT people are “responsible to one's own career, professional biography [..] and [..] cope with the demands of continuous learning”(Nerland & Jensen, 2007, p. 269). Nevertheless, with the pace of technological change in IT industry, the workforce needs to “work with a wide range of technologies and software [..] need to adapt to the requirements of the technological systems [and] imply a need for flexibility and continuous learning at the level of the individual”(Nerland & Jensen, 2007, p. 266). They need to learn how to learn and be self mentoring (Holland et al., 2002; J. Sullivan, 2004). Contingent workers need to manage their own learning to maintain employability. Organisations leverage flexibility of this group of workforce for business needs. When analysing the sustainability of this form of employment in the IT industry, seven issues are identified from the literature surveyed in relation to learning.

3.4.3.1. Incapability of self-responsibility

The first issue is incapability of self-responsibility. Not every one becomes self-employed as a personal choice. People become contingently employed or self-employed because they get laid off in an organisation restructuring, or they are recent graduates who cannot find permanent positions in organisations (Bidwell & Briscoe, 2009). To be self-responsible for own development and career, it requires individual maturity and sometimes depends on personality. “Contractors [or contingent workers] miss out on mentoring and development through the peer relationships”(Peel & Inkson, 2004, p. 552), but this is important for career development, especially for young people.

3.4.3.2. Obsolescence of marketable skill

The second issue is obsolescence of marketable skill. On-the-job learning from challenging works that employ marketable technologies is ideal. However, it is more common that contingent workers are re-hired and they “are engaged to do only part of a project, the work is the same old work as
before” (Peel & Inkson, 2004, p. 554). It is not uncommon that contractors remain in contingent workforce status for a few years in the same organisation. The contingently employed may not have a real choice of ideal engagements. Their skills may not be marketable in the long run.

3.4.3.3. Difficulty in allocating time for learning

The third issue is difficulty in allocating time for learning. ‘Time is money’ is definitely true for contingent workers. They are not paid for learning. If they take time off for learning, they have no income. Moreover, in IT industry, “long working days and the constant need for self-study cause high stress levels” (Loogma et al., 2004, p. 332). It is often difficult for individuals to allocate time to execute their own individual development plans (O'Donoghue & Maguire, 2005).

3.4.3.4. No funding for formal learning

The fourth issue is no funding for formal learning. Contingent workers are not funded by organisations to learn new skills. Therefore, “the costs of formal programs often result in personal development being more limited than that of employees” (Peel & Inkson, 2004, p. 554). Practically, obtaining organisational funding for formal training is not easy even for permanent employees (D. T. Hall & Kahn, 2002) in the dynamic economy.

3.4.3.5. Inaccessibility to organisational systems

The fifth issue is inaccessibility to organisational systems. IT people rely heavily on internet to learn the latest technologies and solving problems. Contingent workers are not employees of organisations. They do not have access to intranets, corporate portals or e-learning systems that are provided to permanent employees. They may need to self fund to “[maintain] computer labs in their homes” (Barley & Kunda, 2004b, p. 258) to self learn and practise the latest technologies. This is the equity of access issue. It may also be an employability issue to self-employed IT contingent workers.

3.4.3.6. Career path for older workforce

The last issue is a career path for older workforce. How to sustain the pace of learning with increasing age is an issue that catches attention of scholars (Loogma et al., 2004; Nerland & Jensen, 2007; Peel & Inkson, 2004). The “requirements for fast and continuing learning in a sustainable manner over a long period of time” (Loogma et al., 2004, p. 337) in the IT industry is particular challenging to contingent IT workers as they age. “Contractors worried whether contracting would remain a viable option for them as they became older and fell victim to perceived prejudices and suspicions regarding older workers […] For these workers there was concern about the long-term viability of contracting as a career strategy” (Peel & Inkson, 2004, p. 555).
3.4.3.7. Difficulty to survive in contingent employment labour market

Contingent workers are named as itinerant experts by Barley & Kunda (2006). They are “characterised by a distinct temporal rhythm, a repetitive cycle of moving from the market to a job and then back to the market” (p. 49). Nevertheless, there are practical difficulty for some contingent workers “to survive, adapt at playing an information game - learning to gather, order, disseminate, interpret, select and use information about jobs, skills, rates and clients” (p. 48). They may not be able to “build networks of other contractors, agents and hiring managers [and] engage in complex, three-way bargaining with hiring manager and agents” (p. 48). Not every contingent worker is able to survive in such market to acquire the necessary opportunity to learn the desire skills or even to acquire a job.

These seven issues, except the incapability of self responsibility, are applicable to IT project managers in enhancing project management capabilities. Contingent IT project managers should be mature enough to be self-responsible on their learning. However, in order to have some formal project management training, they must self fund to attend formal training programmes. Therefore, learning informally is particularly important to this group of project managers. For contingent to-be-IT-project-managers, they face all the seven issues including the incapability of self responsibility. Learning to be a project manager relies on experience and opportunities. Contingent workers do not have senior managers preparing their path to be project managers; they may not be able to self learn project management capabilities. It is challenging for contingent workers to climb up their spiral staircase career path.

3.4.4. Organisational PM capability enhancement in new economy

The new economy described by DeFillipi (2002) is global-based, and IT technologies such as the World Wide Web is driving it. Compressed cycle times and demand for flexibility mean project-based organisations (PBO) are replacing rigid hierarchical organisations (see also Section 3.3.1). DeFillipi (2002) sees that “project-based organising has profound implications for organisation learning which becomes at once more critical to company success” (p. 16). He calls for organisational learning and enhancement in IT project management capabilities as IT becomes increasingly strategic (McLean, 2006; Trauth et al., 2007) in the new economy. In practice, organisations are more relying on IT to be their competitive edge. Therefore, they have desperate needs to improve their IT project success rate (Karlsen & Gottschalk, 2004; Reich, 2007; Reich, Gemino & Sauer, 2008) (see also Section 3.2.1). It is believed that sharing information from the past projects helps project managers work better in the present and ensuring future results. Logue (2004) says that Fortune 500 companies lose USD31.5 billion each year because they do not share knowledge. It is still common that the knowledge and experience gathered in different projects are not systematically integrated into organisation knowledge. Lessons learned may be gathered, but not reused or accepted as valuable knowledge by others (Schindler & Eppler, 2003). The issue of learning should be a top priority for management as IT is strategic to organisation success. The reality is that much is yet to be done (DeFillippi, 2002). Logue
(2004) urges organisations to invest on learning as "No deposit, No Return" (p. 36). Various scholars have also called for inter-project learning (Crossan et al., 1999; Julian, 2008; Lampel et al., 2008; Prencipe & Tell, 2001). With the IT industry being the driver of the new economy, it then provides more impetus to become a projectised industry (PMI, 2009). Under a project-based environment, teams are created and dissolved, rapidly and a team may be geographically disbursed and include representatives from supplier companies, customer organisations, independent contracting third parties (DeFillippi, 2002). Each party only controls part of a project and has partial knowledge of the project. With such a fragmented organisation structure, learning across projects is getting even more difficult than the past (Berggren, Söderlund & Anderson, 2001). In the new economy, project-based firms depend on various sorts of human resources (Söderlund, 2011) and expect people to be mobile. Organisational learning is challenging.

The following sections are going to present a few theoretical organisational learning models. They provide insight on the data analysis work of this thesis.

3.4.5. Learning at three levels: individual, group and organisation

During the literature review on organisational learning, models that describe learning at three levels (individual, team/group, organisation) (Crossan et al., 1999; Järvinen & Poikela, 2006; Prencipe, Brady, Marshall & Tell, 2005; Prencipe & Tell, 2001) are found to be popular. In project-based environment, individuals normally do not work alone. They work on projects and are part of project teams. Teams are formed to deliver values to organisations. Learning happens at each level, and organisational learning occurs dynamically across all three levels. Therefore, a three-level organisational learning model makes sense in this thesis’s context.

3.4.5.1. Crossan, Lane & White’s organisational learning approach

One of the broadly cited three-level organisational learning models is proposed by Crossan, Lane & White’s (1999) model. It is a three-level (individual, group and organisational) four-process (4Is – Intuiting, interpreting, integrating and institutionalising) learning model (see Figure 3.3 below). The four processes form the glue that binds the structure together. Individual learning is through intuiting and interpreting processes, and group level learning is through interpreting and integrating processes. With repeated learning and integrating the lessons learned, eventually the workgroups establish formal rules and procedures, and routines become embedded. This is the institutionalising process at organisational level. Crossan et al. (1999) see learning as being dynamic. There are feed-forward processes (also known as the exploration processes) where new ideas and actions flow from the individual to the group and to the organisation levels. At the same time, what have been learned feeds back from the organisation to the group and to the individual levels to form the feedback processes (also known as the exploitation processes). These two processes occur concurrently and dynamically.
3.4.5.2. Prencipe & Tell’s inter-project learning mechanism

The inter-project learning mechanism from Prencipe & Tell (2001) distinguishes three learning processes: experience accumulation, knowledge articulation and knowledge codification to suggest a framework to analyse the learning abilities of project-based firms (see Figure 3.4 below). Similar to the Crossan et al. (1999) model, this framework also classifies the learning activities into three levels: individual, group/project and organisational. The framework suggests there are three learning landscapes, which are the mix of project-to-project learning mechanisms adapted and implemented. It reflects the multi-dimensional nature of learning. The explorer (or L-shaped) landscape (Prencipe & Tell, 2001 Figure 3) is applied to organisations relied on people-to-people knowledge transfer and interaction across social networks. The L-shape covers the three learning processes at the individual level and the ‘experience accumulation’ process at both the group/project and organisational levels. The second landscape is the navigator (or T-shaped) landscape (Prencipe & Tell, 2001 Figure 4). This landscape characterises organisations with a broadly socio-technical approach although with greater emphasis on the knowledge articulation process at all three levels. These organisations navigate through a few evolving processes to improve project-to-project learning. The T-shape covers the three learning processes at individual level and the ‘knowledge articulation’ process at both the group/project and organisational levels. The third landscape is the exploiter (or staircase) learning landscape (Prencipe & Tell, 2001 Figure 5). It is characterised by organisations that have involved advanced IT tools to support inter-project learning. Their emphasis is on deliberate attempts to codify and store knowledge developed during the execution of a project. Knowledge becomes more easily accessible and exploitable for other organisation’s members. The staircase covers the three learning processes at the individual level and the ‘knowledge articulation’ and ‘knowledge codification’ processes at the group/project level and ‘knowledge codification’ process at the organisational level.
<table>
<thead>
<tr>
<th>Level of analysis</th>
<th>Experience accumulation</th>
<th>Knowledge articulation</th>
<th>Knowledge codification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>○ On-the-job training</td>
<td>○ Figurative thinking</td>
<td>○ Diary</td>
</tr>
<tr>
<td></td>
<td>○ Job rotation</td>
<td>○ “Thinking aloud”</td>
<td>○ Reporting system</td>
</tr>
<tr>
<td></td>
<td>○ Specialisation</td>
<td>○ Scribbling notes</td>
<td>○ Individual systems</td>
</tr>
<tr>
<td></td>
<td>○ Re-use of experts</td>
<td></td>
<td>design</td>
</tr>
<tr>
<td>Group/Project</td>
<td>○ Developed groupthink</td>
<td>○ Brainstorming sessions</td>
<td>○ Project plan/audit</td>
</tr>
<tr>
<td></td>
<td>○ Person-to-person</td>
<td>○ Formal project reviews</td>
<td>○ Milestones/ deadlines</td>
</tr>
<tr>
<td></td>
<td>communication</td>
<td>○ De-briefing meetings</td>
<td>○ Meeting minutes</td>
</tr>
<tr>
<td></td>
<td>○ Informal encounters</td>
<td>○ Ad-hoc meetings</td>
<td>○ Case writing</td>
</tr>
<tr>
<td></td>
<td>○ Imitation</td>
<td>○ Lessons learnt and/or</td>
<td>○ Project history files</td>
</tr>
<tr>
<td></td>
<td></td>
<td>post-mortem meetings</td>
<td>○ Intra-project</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Intra-project</td>
<td>lessons learnt</td>
</tr>
<tr>
<td></td>
<td></td>
<td>correspondence</td>
<td>database</td>
</tr>
<tr>
<td>Organisational</td>
<td>○ Informal organisational routines, rules and selection processes</td>
<td>○ Project manager camps</td>
<td>○ Drawings</td>
</tr>
<tr>
<td></td>
<td>○ Departmentalisation and specialisation</td>
<td>○ Knowledge retreats</td>
<td>○ Process maps</td>
</tr>
<tr>
<td></td>
<td>○ Communities of practice</td>
<td>○ Professional networks</td>
<td>○ Project management process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Knowledge facilitators and managers</td>
<td>○ Lessons learnt database</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Inter-project</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>correspondence</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>○ Inter-project</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>meetings</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.4: Inter-project learning mechanisms. Source: Prencipe & Tell (2001 Figure 2)

3.4.5.3. Järvinen & Poikela’s Process model of learning at work

Finally, Järvinen & Poikela (2006) integrates three renowned learning models to form the process model of learning at work (see Figure 3.5 below). They are Kolb's (1984) experiential learning model, Nonaka & Takeuchi's (1995) knowledge creation model and the above mentioned Crossan et al.'s (1999) organisational learning approach (see Section 3.4.5.1 above). Instead of labelling the learning at three levels, this model emphasises the learning at three contexts: context of individual learning, context of shared learning and context of organisational learning.
According to Järvinen and Poikela (2006), there are four basic learning modes at each level. In the context of individual’s work, they are Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualisation (AC) and Active Experimentation (AE). In the context of shared work, they are Sharing Experience (SE), Reflecting Collectively (RC), Networking New Knowledge (NK) and Learning by Doing (LD). In the context of the organisation’s work, they are Intuition Formation (IF), Intuition Interpretation (II), Integration of interpreted Knowledge (IK) and Knowledge Institutionalisation (KI). The model further condenses learning at work into four forms of processes: social processes, reflective processes, cognitive processes and operational processes. Social processes (CE-SE-IF) are about the sharing of know-how knowledge and experience between the individual, the group and the whole organisation. Learning requires participation. Reflective processes (RO-RC-II) are about the factors relating to the obtaining and giving of individual feedback, the assessment discussion of groups and the drawing of conclusions as well as the continuous evaluation for promoting the development of the whole organisation. Cognitive processes (AC-NK-IK) are about the production, sharing, transfer and recording of knowledge and new models or concepts coming from the employee, the group and the whole organisation. Experience-based knowledge, to which has been added externally acquired knowledge, is at this stage refined into more general knowledge for the organisation's databases. Operational processes (AE-LD-KI) are the continual experimentation and testing of new practices on the part of both individual employees and work groups and departments. From the perspective of the organisation, this means that the new practices become firmly established (Järvinen & Poikela, 2006, pp. 181-183).

3.4.5.4. Further exploration

From the above discussion on organisational learning models, it can be concluded that organisational learning is an interactive and collaborative work of individual, group or project and organisation. Each party is interdependent and needs to contribute to learning activities. The difference of the
models is in how the scholars categorise the learning activities into learning processes. Järvinen & Poikela’s (2006) four learning processes have integrated with Crossan et al.’s (1999) 4Is. Precipe & Tell’s (2001) three learning processes may also be re-categorised and have some learning mechanisms to fit in the Crossan et al.’s (1999) or Järvinen & Poikela’s (2006) four forms of learning processes.

In an IT project management environment, learning may be beyond these three-level learning models. The ‘individual’ may not be part-of the ‘group or project’ and ‘organisation’ throughout the whole project, especially across projects within the same organisation. Project team members may include professionals from multiple third parties (DeFillippi, 2002), with virtual outsourcing teams distributed geographically. They are in and out of the group or project during any project duration. However, the above mentioned three-level models take time to learn such as allowing learners to have feedback and feed-forward learning, and repeating experimentation before institutionalising routines and procedures. These models have not fully explored the organisational learning processes in a project-based and resource-dynamic context.

3.4.6. Social capital and communities in project management

3.4.6.1. Social capital study

How can a project-based enterprise accumulate its core competencies when it rents all the human capital? [...] How can tacit knowledge and knowledge transfer unfold without a stable cadre of experienced personnel? [...] How can project-based enterprises create competitive advantage when its knowledge-based resources are embodied in highly mobile project participants? [...] How is human capital assembled, and what market and social processes facilitate its identification, evaluation and selection for project-based activities? (DeFillippi & Arthur, 1998, p. 125).

DeFillippi & Arthur (1998) have raised the above list of questions regarding challenges of project-based enterprises. This is also the list of questions that this thesis is trying to explore in the Hong Kong IT context (see Chapter 2). They studied the film making industry to look for the answers. They have observed high-technology firms (such as the IT firms) are similar to film makers in the relationships between specialised industry competencies and commercial success. Independent film companies face market uncertainty and demand volatility. They do not employ permanent staff; they have to develop competencies in the identification and recruitment of talented project participants and the management of complexities spanning coordination of variety of crews. DeFillippi & Arthur (1998) bring in the concept of ‘social capital’ to explain the way of learning as a project participant and the industry. The concept of ‘social capital’ was initially appeared in community studies in the 1960s. The concept has been applied to explain a wide range of social phenomena. Nahapiet & Ghoshal (1998) define social capital as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or
social unit” (p. 243) and apply the concept of social capital in relation to the creation of new intellectual capital. They see firms having more dense social capital then having an advantage over markets in creating and sharing intellectual capital.

DeFillippi & Arthur (1998) describe the film industry as a “small, socially interconnected network” and “each film project sustains or enhances each project member’s network of industry contacts, any one of whom may provide the lead or recommendation for future project opportunities” (DeFillippi & Arthur, 1998, p. 133). This is a continuous interplay between project participants’ skills (human capital) and their working relationships (social capital). Project participants develop their career through employing their credits from one project to seek new assignments. Their learning is particular to the project roles they performed. A film’s performance informs the film maker’s knowledge for future projects. Over time, the industry develops a collective memory of what worked and what did not. Project participants also develop their own memories, but there is no place for ‘organisational memory’ (p. 136). IT industry is less dynamic than the film industry on the human mobility perspective. IT departments of organisations and IT services providers still have a team of core staff though each IT project has a mix of resources from other internal departments and external parties. The IT industry still has some ‘organisational memory’ staying in the organisations after project completions. An organisation in the IT industry is comparable to what Bredin (2008) described as a project-based organisation; its retention capability may not be a core quality for the organisation’s people capability since it is common that such organisation uses temporary contracts, consultants and short assignments. IT relies on ‘outsiders’ for the completion of the projects and thus experiences high levels of turnover. The core people capability should be “the capacity to access, maintain and develop a highly skilled and motivated work force over time, although the individuals in it come and go” (Bredin, 2008, p. 570). Organisations should have access to ‘career communities’ that provide a common ground and sense of occupational belonging and a sharing of experiences to people that work in temporary work settings. Knowledge transfer from temporary contingent workers is required to bring in positive enduring consequences for the organisation. This is the way to enhance the social capital of organisations and hence the project management capabilities.

3.4.6.2. Social networks

The concept of ‘social capital’ as borrowed to the IT world can be extended on the internet world. From the film industry case study (DeFillippi & Arthur, 1998), the people network is people whom they encounter on projects. In the internet world, resources may include unknown personnel or services. Contemporarily, connecting through social network such as Facebook and Twitter are popular. The ‘social capital’ value that may be generated from these social networks is continuously being examined by scholars (Chi et al., 2009; Ellison et al., 2006). Other than individual accounts, more enterprise accounts are set up on social networks to advertise and provide services to social networkers. Numerous communities on all sorts of topics can be found on social networks. Moreover,
with advancement of mobile technology, such social networks are available 24-hours on mobile phones or devices. IT people, especially the Gen-Yers, are always the pioneers in technology. They are on all sorts of ‘networks’ physically and virtually around the clock everyday. The power of social capital may be enormous to the IT industry and its projects, especially when the Gen-Ys brings along their strength in multi-channel communications and fit into higher level positions in organisations (Brandel, 2010). Social networks can be means to learn and capture social capital especially under the contingent employment context with highly dynamic workforces.

3.4.6.3. Knowledge communities

As the importance of informal knowledge transfer grows, organisations are looking to communities of practice (CoPs) as a solution. A community of practice, [...] refers to the process of social learning that occurs when people who have a common interest or problem collaborate over an extended period to share ideas, find solutions, and build innovations [...] Formal training has been stretched to its limit when it comes to successfully supporting learning for employees facing complex work. CoPs help organisations gain a significant competitive advantage (Sauve, 2007 Abstract).

Communities of practice (CoP) is a form of knowledge communities that has been widely studied (J. S. Brown & Duguid, 1991; Lesser et al., 2000; Peansupap & Walker, 2005; Sauve, 2007; Smith, 2003; Teigland, 2000; Wenger, 1998; Wenger, McDermott & Snyder, 2002) since Lave & Wenger (1991) proposed learning involved a process of engagement in a ‘community of practice’(Smith, 2003). CoP is seen as a vehicle for building an organisation's social capital and competitive advantage (Lesser et al., 2000; Smith, 2003).

The concept of CoP has been applied by organisations to fit for the specific purposes leading to the existence of various forms of knowledge networks or communities that increase social capital of organisations and individuals. Walker & Christenson (2005) present a wide range of knowledge network types and classify them into a matrix using dimensions of social capital formation and learning levels. CoP is one of the many knowledge network types under Walker & Christenson’s matrix which is shown in Table 3.3 below.
Walker & Christenson’s (2005) model social capital as categorised into three dimensions: structural (network ties, network configuration and appropriate organisation)(p. 284); cognitive (shared codes and language, shared narratives)(p. 285); and relational (trust, norms, obligations, identification)(p. 285). The combinations of the three dimensions’ characterise the knowledge networks. Table 3.3 compares the different knowledge networks (Walker & Christenson, 2005, p. 287): community of interest (CoI), community of practice (CoP), project team, project management office (PMO), project support office (PSO), corporate project management office (CPO) and centre of excellence (CoE). The networks are listed in the sequence with increase in corporate support resources required and degree of hierarchy. They range from loosely grouped ad hoc groups to those taking proactive roles to transfer best practices and learning derived from benchmarking. Going down the list, the learning level gradually increases from individual level (IL) only to include the group level (GL) and the organisational level (OL) with the dominant learning level changes from IL to GL and finally to OL. Under the contingent employment context, individual contingent workers are able to learn in all forms of knowledge network types as long as they have opportunities to participate in the networks. From the organisation perspective, the interest is to retain the knowledge within the organisation. Therefore, organisations may prefer to spend ‘corporate support resources’ on knowledge network types (PSO, CPO and CoE) with organisational knowledge retention as high or very high in Table 3.3.

3.4.6.4. Project management office (PMO)
In order to facilitate cross project learning in organisations, setting up a project management office (PMO) within the organisations’ IT departments is common (Block & Frame, 2001; Ellsworth, 2009; Julian, 2008) (see also Section 3.2.4). However, there is variety of different forms of PMO established (Julian, 2008). The generic term ‘PMO’ is similar to the project office (PO) defined by Walker & Christenson (2005) (see Section 3.4.6.3). They see “A PO is characterised by one of three entities. One entity is a stand-alone project management office (PMO) that manages a single project. A second is a project support office (PSO) that traditionally supports the organisation and its business units to achieve successful outcomes but does not direct or have a line of authority over the business. And the
third is the corporate project management office (CPO) that services the entire company and focuses on strategic and corporate activities to coordinate and improve project management within the entire organisation” (p. 283). As a PMO is widely used in organisations that may manage one project to all projects, the term ‘PMO’ used in this thesis is a generic one, that is the PO defined by Walker & Christenson (2005). PMO is thus a kind of knowledge networks commonly adopted to develop social capital so as to enhance project management capabilities. The high-level function of PMO described by Rad & Levin (2002a) below fits the generic definition.

* A fully developed PMO has the facility to provide services and organisational focus in core and supporting areas of project management. The PMO's mission and objectives are met by training, consulting, and mentoring the project-related personnel; by augmenting the project teams; and by serving as a clearinghouse for project management best practices, thus promoting communication throughout the organisation. A subtle and yet important function of the PMO is to heighten the organisational awareness of the importance of integrating project management procedures and project management culture into the organisation (Rad & Levin, 2002a Section 1.2).

Other than the roles the serve the organisations, Huemann, Martina et al. (2007) see that a PMO has the external roles of “maintenance of the link with project management freelancers, by maintaining a database and inviting them to in-house networking activities and conferences”, “cooperation with universities to have access to new theories and to well-educated project personnel for recruitment” and “cooperation with external project management communities and professional institutions to have access to best practices” (pp. 140-141).

From this section’s literature review, it may be concluded that gaining social capital through various forms of knowledge networks is essential in the contingent employment context. Both individual contingent workers and organisations have to learn beyond the organisational boundary. The following section will further discuss learning models suggested by scholars on organisational learning beyond organisation boundary.

**3.4.7. Organisational learning beyond organisation boundary**

* What are the influences on project-based learning stemming from participants’ career motivations? Does the learning gained by project participants accrue to the project-sponsoring company? Or does much of the learning quickly flow beyond the company as workers move on? What about inter-company alliances, where two or more company learning agendas are involved? How does a company learn from freelancers and consultants, who bring their own learning agendas to the project table? (Arthur et al., 2001, p. 100).

Organisational learning in the new economy is clearly beyond the organisation boundary. The above list of questions from Arthur (2001) indicates project-sponsoring company can no longer keep
learning just at the individual, group and organisational levels. Social capital from external sources has to be utilised and is an input of learning. The learning outcomes are also shared and disseminated beyond the organisation’s boundary.

3.4.7.1. A model of knowledge categories and transformation processes
Hedlund’s (1994) model of knowledge categories and transformation processes (see Figure 3.6 below) is a well-recognised model with over 1,000 studies, refereed articles, dissertations, and papers have been conducted on it since 1994. This model has four levels instead of three as compared to those three-level models discussed in Section 3.4.5 above. Hedlund’s (1994) model has four levels of carriers of knowledge: the individual, the small group, the organisation, and the interorganisational domain, which includes important customers, suppliers, competitors and others. This model has extended the ‘interorganisational domain’ as one of the carriers of knowledge for knowledge assimilation and dissemination, which is referring to knowledge imports and exports to the environment. Hedlund (1994) argues that knowledge is imported from the external environment, after going through the knowledge transfer and transformation process of articulation, internalisation, extension and appropriation; and then new knowledge is generated and disseminated within and beyond the organisation boundary via the interplay of tacit knowledge (TK) and articulated knowledge (AK) through reflection, dialogue and expansion. This model is designed for N-form corporations that have seven main themes. In brief, these main themes are: (1) Putting things together, combining rather than dividing them; (2) Temporary constellation of people and units rather than using a permanent structure; (3) The importance of personnel at ‘lower’ levels in dialogue, rather than handling coordination at the top; (4) Lateral communication and dialogue rather than vertical; (5) Top management as a catalyst, architect of communication infrastructure and protector of knowledge investment rather than monitor and resource allocator; (6) Focusing the corporation on fields with rich potentials for combining knowledge elements rather than diversifying to create semi-independent parts; and (7) Heterarchy as the basic structure rather than hierarchy (pp. 82-83). These themes mimic the modern project-based IT environment that extends the knowledge base to beyond the organisation boundary and must co-work with the external world such as the inter-organisational domain defined in this model.
3.4.7.2. A project-based learning model

Other than Hedlund (1994), there are other scholars who see the need to include the external world in organisational learning such as communities, industry, customers, suppliers or sub-contractors (Arthur et al., 2001; Bredin, 2008; Milton, 2005; Sense, 2007). Among these scholars, Arthur et al. (2001) propose a project-based learning model (see Figure 3.7 below), which is found to be representative in the IT project management context. Arthur et al. (2001) briefly describe the model as “People’s past learning experiences are the ‘career capital’ they invest in their current project activity. The project-sponsoring company’s past learning experience is non-financial ‘company capital’ it invests in project activity. At the project’s conclusion, learning disperses within or beyond the project-sponsoring company, as people’s career progress” (p. 99).

This model has three parts. The first part is input. Inputs are sourced from the careers-to-date (career capital) of project participants who may be internal or external resources within the host industry. Career capital involves three forms of knowledge: knowing-why (the disposition to participate that a
person brings to a project team, to influence and be influenced by the project experience); knowing-how (an individual’s emergent repertoire of skills and expertise coming from both formal and informal learning); and knowing-whom (an individual’s accumulated network, spanning contacts both internal and external to employer company)(pp. 100-101). The second part is the development of both project-based performance and project-based learning processes when the project inputs engage with a principal project-sponsoring company. The project-sponsoring company contributes and gains three forms of non-financial capital. They are the cultural capital (the beliefs and values and shared sense of mission); human capital (an organisation’s body of formal and informal, and tacit and explicit, knowledge available through the company’s members); and social capital (the resources available to an organisation through its internal and external relationships)(p. 102). The third part is the outputs of projects. Arthur et al. (2001) see that both project participants and project-sponsoring companies are potential beneficiaries of project-based performance and learning outputs. In the host industry, learning gained by project participants and companies collaborates in new projects of the industry.

The models from Arthur et al. (2001) and Hedlund (1994) have been proposed for more than a decade. With the advance in technology in IT and communication, the ‘new economy’ has become newer. These models are closer to the environment of IT project-based organisations and provide a theoretical foundation to further explore and examine the new form of contemporary organisational learning. This thesis is in attempt to provide certain academic contributions in this arena.

3.5. Chapter Summary

“The winners in the post-recovery world will be the companies that leverage contingent workers as workforce accelerators, having mastered the art of managing a flexible mix of permanent and contingent workers to optimise their performance, increasing their speed of execution, building talent capability, keeping fixed costs low and doing more with less” said Lancy Chui, General Manager of Manpower Hong Kong and Macau Operations (CTHR, 2009, p. 1).

The 2008 financial crisis and 2009 Europe debt crisis gave a further impetus to the contingent employment trend (see Section 3.3). It also means that IT is an even more organisational success strategic driver for economic recovery (Peterson, 2010; Staff, 2009b). Nevertheless, there are continuous needs for higher IT project success rates. Scholars have studied and identified what needs to be done to have IT project management success (see Section 3.2). Theories and models proposed by scholars to enhance IT project management capabilities (see Section 3.4) have been elaborated. This chapter has set the theoretical foundation for this thesis and the coming data analysis work.

This chapter provides a review of salient literature to support addressing the research objectives and questions posed in Section 1.5 and Section 1.6 respectively. Table 3.4 below summarises the literature
discussed and explains its relevance. The next chapter will describe the research methodology and how this research has been conducted.

Table 3.4: Relevant literature discussed in chapter 3

<table>
<thead>
<tr>
<th>Section</th>
<th>Literature discussion</th>
<th>Relevance to this thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td>IT project management including failure of IT projects, characteristics of IT projects, success models, IT project management capabilities</td>
<td>This section focuses on the first core theme – IT project management of the thesis. It provides the views of scholars that study the knowledge area project management with specialisation on IT project management which has its special characteristics. The theories and models applied are more than the generic project management ones.</td>
</tr>
<tr>
<td>3.3</td>
<td>Contingent employment and IT including the new economy and contingent employment, advantages and disadvantages of contingent employment, contingent IT professionals (including project managers), IT specific characteristics fit contingent employment, and the future of contingent employment.</td>
<td>This section focuses on the second core theme – contingent employment of the thesis. It provides the views of scholars that study the knowledge area contingent employment with particular interest in the new economy that is changed by the advance in IT technology. The theories and models specific to IT contingent employment are also discussed in this section.</td>
</tr>
<tr>
<td>3.4</td>
<td>Enhancing IT PM capabilities including project manager career development, formal and informal PM learning, individual learning and organisational learning in contingent employment context, learning at three levels (individual, group, organisation), social capital and communities in PM, and organisational learning beyond organisational boundary</td>
<td>This section focuses on the third core theme – enhancing IT project management capabilities of the thesis. It provides the views of scholars that study the knowledge area learning and enhancing project management capabilities in the contingent employment context. The theories and models studied include individual learning and organisational learning ones. Furthermore, in the contingent employment context, learning is likely to be beyond the organisational boundary. Theories and models in social capital, communities of knowledge and learning beyond organisational boundary are also discussed in this section.</td>
</tr>
</tbody>
</table>
Chapter 4 - Research Method

4.1. Introduction

After understanding the context of this research (see Chapter 2) and the related literature survey outcomes (see Chapter 3), this chapter is going to describe the research strategy and method of this thesis. In Section 4.2, the ontology (see Section 4.2.1) and epistemology (see Section 4.2.2, 4.2.3 and 4.2.4) behind the research design of this thesis are explained. The ontology of the research is from the experience and background of the researcher with reference to literature and consultation of practitioners in the context of the research. Based on the nature of the research, the epistemology is defined based on Crewell’s (2003) research design framework and the detailed research processes (see Section 4.3). Following that, the method to analyse data and conclude the findings are discussed in Section 4.4. After walking through the processes, Section 4.5 provides explanation on how the quality of the research is assured, and Section 4.6 presents the ethical considerations in this thesis before the chapter is summarised in Section 4.7.

4.2. Research Design

The researcher was attracted to enroll for the Doctor of Project Management (DPM) programme of RMIT, Australia because its “objectives are centred on advancing professional practice [...] The driving assumption is that research is centred upon [the researchers’] projects or workplace” (Walker, 2005, p. 16). With almost 20 years experience in learning and practising IT project management, the researcher has personal understanding of the nature of IT project management in the real world. When attempting to address some real life project management phenomena, the researcher is informed by their personal experience and background. ‘Ontology’ is about the nature of reality (Easterby-Smith, Thorpe & Jackson, 2008) and a theory of the nature of social entities (Bryman & Bell, 2003). The research topic of this thesis was evolved from the way the researcher understands the nature of the real world (see Section 4.2.1) – ‘ontology’. Nevertheless, the way to explore the nature of the real world has to address the question if the findings discovered are of quality with validity and reliability (Bryman, 2001). It is the acceptance of a particular ‘epistemology’ - a theory of knowledge, a stance on what should pass as acceptable knowledge (Bryman & Bell, 2003). It is concerned with truth, belief, justification and verification (Wellington & Szczerbinski, 2007). Easterby-Smith et al. (2008) define ‘epistemology’ as the general set of assumptions about the best ways of inquiring into the nature of the world. In order to assure the research findings will be valid and reliable, the research has to commence with a design with philosophical foundation that drives serious research processes and data analysis. Creswell’s (2003) framework for design suggests there are three elements of inquiry. They are the ‘knowledge claim’, ‘strategies’ and ‘methods’. Based of the nature of this research, this thesis refers to this framework to identify the research knowledge claim approach (see Section 4.2.2), the research strategy (see Section 4.2.3) and the research method (see Section 4.2.4).
Following this framework is addressing “three questions central to the design of research: (1) What knowledge claims are being made by the researcher (including a theoretical perspective)? (2) What strategies of inquiry will inform the procedures? (3) What methods of data collection and analysis will be used?” (Creswell, 2003, p. 5). Therefore, by identifying these three elements of the research, they guide the choices of the research processes (including data collection processes) (see Section 4.3) and data analysis methods (see Section 4.4) of this thesis. The quality of the thesis is built in the research design and is summarised in Section 4.5 below.

4.2.1. Ontology of the thesis

The idea of this research came from the researcher’s personal experience working on complex IT projects in Hong Kong for large organisations. It was observed that large Hong Kong organisations had increasingly utilised contingent IT workers to deliver IT projects. In a few multi-year and multi-million-USD IT projects led by the researcher as project manager or project director between the years 2000 and 2007, the percentage of contingent workers increased from below 40% to over 80% of the overall project team size. Eventually, even some IT project managers were under contingent employment. The researcher has great concern on how organisations can retain knowledge and experience generated from IT projects. How can organisations avoid similar mistakes and increase the new projects’ success rate when a significant percentage of the project workforce is mobile and leave the organisation after project completion? It is more difficult for an individual contingent IT professional without the support and investment from an employer than an IT employee to climb the project management career ladder to become a competent project manager. In the researcher’s experience, a significant portion of the project manager’s time was spent on managing contingent workers’ hiring, orientation, setting expectations, monitoring job performance, aligning work consistence, transiting work from one contingent worker to another or firing non-performers. The researcher’s observations were that: project mistakes were repeated within the same organisation because many project team members (including the project manager) were new to the organisation; contingent IT professionals repeatedly continue to perform the same role (such as systems analyst or developer) in new projects without job level promotions; and the career advancement of generation-Y IT workers seemed to be slower than those generation-X ones. Furthermore, the researcher’s previous master research thesis was on “The role of experiential learning in developing information technology project management capabilities in a large organisation” (Ng, 2008). It was an Australian case study; one of the research findings was that the case study organisation had a policy of hiring trained, experienced IT project managers on an individual contract basis to run its IT projects. Such policy was suspected to contribute to the risk of knowledge drainage and prohibited learning in the case study organisation by the case study participants. In summary therefore, the combination of personal experience, observations and research findings raised the interest of the researcher to further study on this arena (see also Appendix A).
Employing contingent policy on IT projects seems to have an adverse impact on project management capabilities enhancement. However, the increasing trend of contingent employment on IT projects shows that such policy should contribute to some favourable outcomes to the employing organisations and/or individual practitioners. This thesis research topic “Exploring contingent employment policy in IT – impacts upon IT project management capabilities enhancement in large Hong Kong organisations” therefore explores the impacts from a learning and capability enhancement perspective. It began with the proposition that:

*Contingent employment policy has an adverse impact on individual and organisation learning and causes a decrease in IT project management capabilities in large Hong Kong organisations.*

At the commencement of the thesis, the researcher looked for ideas on the thesis subject through reviewing a vast diversity of literature (see Section 4.3 Phase I - literature survey) and sought views of scholars from multiple disciplines to look for support on the research subject. The review outcome suggests that there has been a limited amount of research undertaken on IT project management capabilities enhancement within the context of contingent employment. From over 200 literature sources referred to in Chapter 2 and Chapter 3 of this thesis, not one of them covered all the core themes (*IT project management, contingent employment, and enhancing IT project management capabilities*) of this research (see Section 3.1). A number of literature sources (Berggren et al., 2001; DeFillippi & Arthur, 1998; Huemann, Keegan et al., 2007; Huemann, Turner et al., 2007; Keegan & Turner, 2003) could be found if the ‘IT’ context was excluded. Those literature sources on IT project management and capability enhancement or learning arenas (Karlsen & Gottschalk, 2004; L. S. Lee & Anderson, 2006; Lyytinen & Robey, 1999; Reich, 2007; Reich, Gemino et al., 2008; Reich, Sauer et al., 2008) were found to exclude the contingent employment context. Scholars and practitioners researching in the knowledge areas of IT contingent employment (Barley & Kunda, 2004g; Low, 2002; Webster, 2005) also agree that there is a significant level of contingent employment in IT but they could not collect statistical data on this aspect of work. Thesis will connect these three core themes and attempt to fill the knowledge gaps.

In order to further strengthen the ontology perspective of the thesis, the researcher further sought opinions from experienced practitioners within this thesis’ context through the ‘pilot interview studies’ (see Section 4.3.2). As per Yin (2003), “The pilot case study will help [the researcher] to refine [the] data collection plans with respect to both the content of the data and the procedures to be followed […] [It] is more formative, assigning [the researcher] to develop relevant lines of questions – possibly even providing some conceptual clarification for the research design as well”(p. 79). The pilot interview study was carried out as pilot case studies (Yin, 2003) to inform the researcher the themes of the research and provide insight to design the research processes. Details of the pilot interview processes are discussed in Section 4.3.2. The outcomes (see Chapter 5) strengthened the
researcher’s belief that there was an entrenched trend toward project management contingent employment. Although there was no solid data regarding how significant the percentage of IT workforce in Hong Kong was working on contingent employment mode, practitioners such as the researcher and pilot case studies’ participants have observed such a trend; some of them also had queries on how IT project management capabilities could be advanced under the contingent employment context. By the time this thesis was concluded, it seemed that few or any research projects has been identified that has addressed IT project management capabilities enhancement in the context of contingent employment although the phenomena were observed in the real world. With limited research references being available, the researcher decided to utilise a research design that supports an exploratory approach (Neuman, 2006; Rowley, 2002; Yin, 2003) that uncovers or highlights issues of a phenomenon under study (Neuman, 2006). This thesis has therefore identified five research objectives as follows:

1. To explore the importance of continuous enhancement of IT project management capabilities to business successes;
2. To identify and explain the contingent and permanent employment policies of IT professionals (including project managers) in large Hong Kong organisations;
3. To investigate and explain the impacts of contingent employment policies on IT project management capabilities enhancement;
4. To identify and explain the practices of enhancing IT project management capabilities as an individual, as a group and as a large organisation; and
5. To identify and present possible solutions to satisfy the needs to enhance IT project management capabilities under contingent employment practice.

With the research nature and objectives set, the researcher sought to define the research design from the epistemological perspective. Details are discussed in the following sections.

4.2.2. Knowledge claim approach

In the past two decades, research approaches have multiplied to a point at which investigations or inquires have many choices [...] I recommend that a general framework be adapted to provide guidance about all facets of the study, from assessing the general philosophical ideas behind the inquiry to the detailed data collection and analysis procedures (Creswell, 2003, p. 3).

The research design of this thesis was planned following Creswell’s (2003) framework for design (see Figure 4.1 below). For any research design, there is need to build a sound foundation from a philosophical perspective that later informs the detailed research approach and processes. Creswell (2003) proposes researchers to consider “three framework elements: philosophical assumptions about what constitutes knowledge claims; general procedures of research called strategies of inquiry; and
detailed procedures of data collection, analysis and writing, called *methods*” (p. 3). Upon identifying these three elements, “a researcher can then identify either the quantitative, qualitative, or mixed methods approach to inquiry” (p. 6).

**Elements of Inquiry**

![Diagram of Inquiry Elements](image)

Figure 4.1: Framework for design. Source: Creswell (2003 Figure 1.1)

The first element of inquiry is ‘alternative knowledge claims’. Creswell (2003) sees there are four schools of thought about knowledge claims. They are postpositivism, constructivism, advocacy/participatory and pragmatism (p. 7). ‘Positivism’ is “an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond” (Bryman & Bell, 2003 Box 1.7). Creswell (2003) states that it is also called “quantitative research, positivist/postpositivist research, empirical science, and postpositivism” (pp. 6-7). He stresses that ‘postpositivism’ refers to “thinking after positivism [...] reflects a deterministic philosophy in which cause probably determine effects or outcomes” (p. 7). The knowledge areas under research in this thesis are relatively under explored (see Section 4.2.1). ‘Postpositivism’ does not seem appropriate as the research phenomena under study in this thesis are not deterministic, and the variables and theory base are not all known at the commencement of the research. It is therefore difficult to adopt a scientific research method. ‘Advocacy/participatory’ (or emancipatory) knowledge claim is appropriate when ‘researchers believe that inquiry needs to be intertwined with politics and a political agenda. Thus, the research should contain an action agenda for reform that may change the lives of the participants, the institutions in which individuals work or live and the researcher’s life” (Creswell, 2003, pp. 9-10). Lichtenstein & Hunter’s (2005) see emancipatory research as “[...] needed to reveal understandings that are structured within power relations, paving the way for liberating transformations (Freire, 1985, 2000)” (p. 1). It is a change-oriented approach. This thesis author has no intention to change the lives of any person or organisations in the context of the research, nor does have a political agenda. Thus, ‘advocacy/participatory’ approach is therefore not suitable to be applied on this research. ‘Pragmatism’ is another position about claims of knowledge. It comes from pragmatists who see “there is concern with applications – ‘what works’- and solutions to problems (Patton, 1990). Instead of methods being important, the problem is most important, and researchers use all approaches to understand the problem (see Rossman & Wilson, 1985)” (Creswell, 2003, p. 11). At the commencement of this thesis, it was unclear if problems exist and even the
researcher only had a suspicion that organisations might have difficulties in advancing IT project management capabilities under the contingent employment context. There was a need to understand the reality before confirming if there were problems to be resolved. The thesis outcome might not find out ‘what works’ even the fifth research objective was set to ‘identify possible solutions’. ‘Pragmatism’ is therefore not considered as the best research approach.

The last knowledge claim approach proposed by Creswell (2003) is ‘constructivism’. Bryman & Bell (2003) defines “constructionism is an ontological position (often also referred to as constructivism) that asserts that social phenomena and their meanings are continually being accomplished by social actors”(Box 1.14). Easterby-Smith et al. (2008) express the term as ‘social constructionism’ as “‘reality’ is not objective and exterior, but is socially constructed and given meaning by people”(p. 58). Therefore, Creswell (2003) sees the constructivist researchers “focus on the specific contexts in which people live and work” and recognise that the researchers’ “own background shapes their interpretation”. “The researcher’s intent […] is to make sense of (or interpret) the meanings others have about the world”(pp. 8-9). The research of this thesis began with the experience of the researcher with reference to the literature and a pilot interview study of experienced practitioners in the context of this research (see Section 4.2.1). The ‘reality’ of advancing IT project management capabilities under contingent employment is subjective to participants within this context. With the background of the researcher, the first four research objectives of this research (see Section 4.2.1) can be achieved by the researcher to make sense of the meaning of participants in the specific context. The last research objective is an attempt to identify possible solutions to satisfy the needs to enhance IT project management capabilities under contingent employment practice. This is about the aim to “generate or inductively develop a theory or pattern of meaning” (Creswell, 2003, p. 9) by constructivist researchers. Therefore, ‘constructivism’ is the best knowledge claim approach to this research.

4.2.3. Research strategy

When discussing research design, the two broad research designs – qualitative and quantitative (Babbie, 2008; Bryman, 2001; Bryman & Bell, 2003; Creswell, 1994, 2003; Easterby-Smith et al., 2008; Rossmann & Wilson, 1985; Wellington & Szczepanowski, 2007) are compared and contrasted by scholars. Easterby-Smith et al. (2008) argue supported by many textbooks that “The [qualitative method] involves collecting data that is mainly in the form of words, and the [quantitative method] involves data which is either in the form of, or can be expressed as numbers” (pp. 82-83) is the key to understanding different research designs. However, the knowledge claim element of epistemology (such as positivism/postpositivism or constructivism) alone does not determine if a research should follow a qualitative or quantitative research design. A variety of research methodologies (Easterby-Smith et al., 2008) or strategies of inquiry (Creswell, 2003) classified either under qualitative or quantitative research designs can be mapped against positivism or constructivism epistemologies. In fact, certain epistemology such as pragmatism “opens door to multiple methods, different worldviews
and different assumptions” and fit for the use of mixed methods (Creswell, 2003, p. 12). Research strategies chosen may lean toward qualitative or quantitative design but not purely one of the two methods. Under Creswell’s (2003) framework for design, alternative strategies of inquiries are suggested associated with quantitative, qualitative and mixed methods.

Creswell (2003) suggests that “qualitative research is exploratory and researchers use it to explore a topic when the variables and theory base are unknown” (p. 75). Under qualitative research, he lists five strategies of inquiry namely: narratives, phenomenologies, ethnographies, grounded theory and case studies (Table 1.2). One or more of these strategies of inquiry may be chosen for this thesis. From another perspective, Yin (2003) suggests making the research choice among experiment, survey, archival analysis, history or case study by considering three conditions: (a) the type of research question posed; (b) the extent of control an investigator has over actual behaviour events; and (c) the degree of focus on contemporary as opposed to historical events (Figure 1.1). The subject of this thesis focuses on the recent dynamics of contingent employment in the IT project management arena and its impact on IT project management capabilities enhancement observed by practitioners. It is a contemporary event and keeps changing. The behaviour of the actual events or participants in the events cannot be manipulated. The research objectives (see Section 4.2.1) look for some ‘what’ type questions to explore the events such as what the contingent policies are implemented in organisations. However, the focuses are on ‘how’ and ‘why’ form of research questions such as why IT project management capabilities are essential to business success; why organisations and individuals choose to enter into contingent employment relationships; or how contingent employment impacts organisations and individuals in enhancing IT project management capabilities. This fits Yin’s ‘case study’ strategy. According to Yin (2003), “case studies are the preferred strategy when “how” and “why” questions are being posed, when the investigator has little control over events and when the focus is on a contemporary phenomenon within some real-life context” (p. 1). Creswell (1998) defines “a case study is an exploration of a ‘bounded system’ or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context” (p. 61). Therefore, this researcher has chosen ‘case studies’ as the strategy of inquiry under the qualitative research design paradigm (Creswell, 2003 Table 1.2). A ‘case’ under study in this thesis is a large Hong Kong organisation that employs IT professionals to deliver IT projects. It is the area of interest to explore a case (organisation) enhanced its IT project management capabilities when relying on contingent IT workers to deliver IT projects. However, there are variations within case studies as a research strategy (Yin, 2003).

Case study research includes both single- and multiple-case studies (Denzin & Lincoln, 1994; Miles & Huberman, 1994; Yin, 2003). Yin’s (2003) advice has been “although all designs can lead to successful case studies, when you have the choice (and resources), multiple-case designs may be preferred over single case designs [...] your chances of doing a good case study will be better than
using a single-case design” (p. 53) and “the evidence from multiple cases is often considered more compelling [...] and more robust”(p. 46). Denzin & Lincoln (1994) define three types of case studies: ‘intrinsic case study’, ‘instrumental case study’ and ‘collective case study’. ‘Intrinsic case study’ is undertaken “when one wants better understanding of this particular case”(p. 237). In ‘instrumental case study’, “a particular case is examined to provide insight into an issue or refinement of theory. The case is of secondary interest; it plays a supportive role, facilitating our understanding of something else”(p. 237). ‘Collective case study’ is conducted when “researchers may study a number of cases jointly in order to inquire into phenomenon, population, or general condition [...] Individual cases in the collection may or may not be known in advance [...] They are chosen because it is believed that understanding them will lead to better understanding, perhaps better theorising, about a still large collection of cases”(p. 237). This thesis research is investigates the phenomena of large organisations employing contingent workers on IT projects and how this phenomena impacts organisations enhancing its project management capabilities. It is not the researcher’s interest to extensively find out the practice of a particular organisation (case) but to explore the practices of organisations in the research context. This research was thus conducted using the ‘collective case study’ type defined by Denzin & Lincoln (1994). Three cases were studied in this thesis. Two of them were representative organisations who employed over 50% of their IT workforce under contingent employment to deliver IT projects, and each of them represents one of the two major categories (case 1: an IT users organisation; and case 2: an IT and communications services organisation) of IT employers in Hong Kong (VTC, 2010). These two organisations were connected by the researcher through the personal network as the researcher is an experienced practitioner in the industry. The third case study (case 3) was intentionally selected to be a large organisation that employed a low percentage (below 20%) of contingent IT workers in Hong Kong. This case was introduced by a local professional project management association. The researcher had no prior knowledge of the third case. Details of the case study processes can be found in Section 4.3.3.

The other reason to conduct multiple case studies is to make it possible to conduct cross-case analysis (Miles & Huberman, 1994) or comparative analysis (Bryman & Bell, 2003). When multiple cases are studied using similar methods, they are compared and contrasted. Bryman & Bell (2003); “[comparative] design entails the study using more or less identical methods of two or more contrasting cases. It embodies the logic of comparison in that it implies that we can understand social phenomena better when they are compared in relation to two or more meaningfully contrasting cases or situations”(Chapter 2 Comparative design). Miles & Huberman (1994) see “the fundamental reason for cross-case analysis is to deepen understanding and explanation”(p. 173); and it also enhances generalisability. Details of the comparative analysis processes can be found in Section 4.3.4.
4.2.4. Research method

The third major element that goes into a research approach is “the specific methods of data collection and analysis” (Creswell, 2003, p. 17). From literature surveys around the core themes of this research (see Chapter 3), major researches and theories around IT project management, contingent employment, and enhancing IT project management capabilities have been identified. However, what is missing is the ability to link all the three core themes (see Section 4.2.1). Further, there are even fewer insights in the literature of the Hong Kong context (see Chapter 2). With this lack of theoretical bases or proven referential studies for this research that uses proven valid constructs, it was considered more effective to begin gathering data through interviews using open-ended questions “about a topic largely without the use of specific questions [...] to allow [the type of information] to emerge from participants” in the research (Creswell, 2003, p. 17). The pilot interview studies (see Section 4.3.2) took this approach to collect data from experienced practitioners in the context of study. The data collected was analysed and codified into initial list of concepts and categories (Corbin, 2008; Creswell, 1998) that support the formulation of the first version of research questions of Phase III – case studies (see Section 4.3.3). Data collection of the case studies took the advice from scholars (Bryman, 2001; Creswell, 2003; Yin, 2003) to collect data from multiple sources. Yin (2003) compares strengths and weaknesses of six sources of evidence to collect data namely: documentation, archival records, interviews, direct observations, participant observations and physical artefacts (Figure 4.1). This research has taken three major sources of evidence: documentation, archival records and interviews.

Interviewing case study participants is “the opportunity for the researcher to probe deeply to uncover new clues, open up new dimensions of a problem [and] the main aim of qualitative interviewing is [...] attempting to gain an understanding from the respondent’s perspective which includes not only what their viewpoint is but also why they have this particular viewpoint” (Easterby-Smith et al., 2008, p. 144). Interviews can collect targeted data, “focus directly on the case study topic” and provide insightful information (Yin, 2003, p. 86). In this thesis, “face-to-face, one-on-one in-person interviews” (Creswell, 2003, p. 186) with a few open-ended questions (see Appendix B) were conducted to collect data from case study participants. This is described as ‘élite’ interview by Gillham (2000). It is used “when [the researchers] interview someone in a position of authority, or especially expert or authoritative, people who are capable of giving answers with insights and a comprehensive grasp of what it is [the researchers] are researching” (p. 63). This is also a way to “avoid bias” (Easterby-Smith et al., 2008, p. 147). The case study participants of this thesis were those who work or have worked in the case study organisations and participate or have participated in IT project management capabilities enhancement related activities. They are experts in the context of this research. Furthermore, a set of semi-structured questions is asked about the participants’ background. Details of the interview processes are described in Section 4.3.3 below. ‘Documentation’ and ‘archival records’ are two other sources of data in this thesis. They are taken as the triangulation sources (Bryman & Bell, 2003; Creswell, 2003; Denzin & Lincoln, 1994; Gillham, 2000; Yin, 2003)
to support of data collected from interviews. Details of the triangulation processes are described in Section 4.4.3 below.

In summary, based on Creswell’s (2003) framework for design (see Figure 4.1), this thesis adopts a constructivist assumption to claim knowledge validity. The research strategy is the case study taking the multiple-case, comparative design. The research method mainly relies on open-ended interviewing supported by semi-structure interviews and triangulations using documentation and archival records. It is basically taking the qualitative approach. Table 4.1 is the summary of this thesis’ research design. The following section describes the research processes under Creswell’s (2003) framework.

Table 4.1: Research design of thesis based on Creswell’s (2003) framework for design

<table>
<thead>
<tr>
<th>Knowledge claim</th>
<th>Strategy</th>
<th>Method</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constructivist assumption</td>
<td>Case studies; multiple-cases &amp; comparative design</td>
<td>Open-ended &amp; Semi-structured interviews; Triangulation</td>
<td>Qualitative</td>
</tr>
</tbody>
</table>

4.3. Research Processes

The problem under research is a human problem in relation to how individuals or groups of individuals forming organisations learn project management capabilities. The selected research design (see Table 4.1) therefore contributes a means to provide insight regarding those individuals who are in the centre of the problem. This thesis ‘explores’ the knowledge area in regard to enhancing IT project management capabilities in a contingent employment context. Ultimately, “the researcher builds a complex, holistic picture, analyses words, reports detailed views of informants, and conducts the study in a natural setting”(Creswell, 1998, p. 15). The entire research was based on the research design chosen in Section 4.2 and was divided in five phases. They were: Phase I – literature survey, Phase II – pilot interview study, Phase III – case studies, Phase IV – comparative analysis and Phase V - validation (see Figure 4.2). The detailed research processes of the five phases are described in the following sections.
4.3.1. Phase I – literature survey

The objectives of ‘Phase I – literature survey’ are to identify which data need be used to inform the initial research design and provide theoretical foundations to support the research analysis. This research’s topic - “Exploring contingent employment policy in IT - impacts upon IT project management capabilities enhancement in large Hong Kong organisations” has three core themes: IT project management, contingent employment, and enhancing IT project management capabilities (see Section 3.1).

The early literature survey explored the current situation and future prospect of the Hong Kong IT sector. The literature sources surveyed focused on the market situation of the Hong Kong IT sector (see Section 2.2); the key trends impacting the sector (see Section 2.3); and the IT workforce demand and supply situations (see Section 2.4), which cause undue stress on IT project managers, contingent workforce and major resource strategies recently employed by large Hong Kong organisations. As this research progressed between late 2008 and early 2012, Hong Kong’s IT sector kept changing. The literature sources surveyed in this phase continued to be renewed up to February, 2012. This part’s literature survey findings provided a holistic view of the research context and are detailed in Chapter 2 of this thesis. The literature provided insight in the Hong Kong context regarding the three of the five research objectives of this thesis (see Section 4.2.1). Data for objective one (To explore the importance of continuous enhancement of IT project management capabilities to business successes) was identified through understanding the growth of the Hong Kong IT sector (see Section 2.2.1),
challenges of CIOs (see Section 2.2.2), increasing importance of the IT role in organisations (see Section 2.3.1) and IT project managers on demand (see Section 2.4.3); data for objective two (To identify and explain the contingent and permanent employment policies of IT professionals (including project managers) in large Hong Kong organisations) were collected through literature on major IT trends including contingent employment (see Section 2.3.2 through Section 2.3.5) and Hong Kong contingent workers in the IT sector (see Section 2.4.4); and data for objective four (To identify and explain the practices of enhancing IT project management capabilities as an individual, as a group and as a large organisation) was learned through studying literature on the employers of the IT workforce (see Section 2.4.1), IT workers career progression (see Section 2.4.2), IT workers mutual co-operation with Mainland (see Section 2.4.5) and the IT workforce continuous learning (see Section 2.4.6). Literature about objective three (To investigate and explain the impacts of contingent employment policies on IT project management capabilities enhancement) in the Hong Kong context were not available by the time this research was commenced.

In regard to the three core themes of the research (see Section 4.2.1), contemporary theories that support these themes are widely surveyed. Literature sources have been surveyed regarding the first theme (IT project management). The IT industry is a relative young industry, and its project management history is therefore relatively short comparing with mature industries such as construction or defence (Kwak, 2003). IT projects have experienced a relative high failure rate (Flinders, 2011; T. Hall et al., 2008; Lemon et al., 2002; Lientz & Rea, 2001; Standish, 1995, 2009; Whitfield, 2007) (see Section 3.2.1). In order to understand the reasons behind the failure, it is essential to understand characteristics of IT projects (Cooke-Davies, 2002; Lientz & Rea, 2001; Linde & Linderoh, 2006; McLean, 2006; Sauer & Reich, 2009; Trauth et al., 2007) (see Section 3.2.2) and how IT project success are measured. Successful IT project management models suggested by various scholars (Kendra & Taplan, 2004; Sauer et al., 2001; Sauer & Reich, 2009) (see Section 3.2.3) should therefore be studied. In order to improve the situation, there are numerous studies on practices to enhance IT project management capabilities (Ellsworth, 2009; Gresse et al., 2010; ISO, 2008; Julian, 2008; Kerzner, 2005; Levinson, 2010; PMI, 2008b; Rad & Levin, 2002a; SEI, 2010; Williams, 2009) (see Section 3.2.4). The literature survey outcomes on the first theme are presented in Section 3.2 of this thesis. They are essential data and theories to support the case study analysis and comparative analysis that contribute to research objective one (To explore the importance of continuous enhancement of IT project management capabilities to business successes) (see Section 4.2.1) of this thesis. Among the successful IT project management models discussed in Section 3.2.3, the multiple process views of IT projects from Sauer & Reich (2009) (see Figure 3.2) has been taken as the theoretical framework to analyse and compare the project management success measure practices of the three case study organisations. It was used to analyse (see Sections 6.5.3, 7.5.3 and 8.5.3) and compare (see Section 9.4.3) the three case study organisations’ attitudes on project management success. This is trying to achieve objective five (To identify and present possible
solutions to satisfy the needs to enhance IT project management capabilities under contingent employment practice) of this research.

While IT projects continue to experience a relatively low success rate, simultaneously the IT projects employ an increasing proportion of contingent workers as one of the solutions to face the dynamic business environment. Therefore the literature surveyed under the second theme (contingent employment) focused on contingent employment in the new economy (Barley & Kunda, 2006; Benner, 2002e; Focus, 2006; Fuchs, 2002; Gallagher, 2002; Gonos, 1994; Gregory, 2001; Hatton, 2011; Hodson & Sullivan, 2008; Kallenberg, 2001; Matusik & Hill, 1998; McMorrow, 1999; Nesbit, 2005; Peel & Inkson, 2004; Redpath et al., 2007; Webster, 2005) (see Section 3.3.1). There are advantages and disadvantages of utilising contingent employment from both organisation and individual contingent worker’s perspectives. Numerous studies have touched on this aspect of contingent employment. The vast discussions (Allan & Sienko, 1998; Barley & Kunda, 2004f; Chaturvedi, 2010; Focus, 2006; Gregory, 2001; T. Hall et al., 2008; Labovitz, 2005; Lepak et al., 2003; MacDougall & Hurst, 2005; Matusik & Hill, 1998; Peel & Inkson, 2004; Redpath et al., 2007) on advantages of contingent employment from organisation and individual perspective (see Section 3.3.2) and the disadvantages of contingent employment from organisation and individual perspective (see Section 3.3.3) were summarised in Table 3.2. However, most studies on contingent employment are non-IT specific. In order to understand the specific characteristics of contingent IT employment, literature about contingent IT professionals (including IT project managers) (Bidwell & Briscoe, 2009; eWeek, 2007; Holland et al., 2002; Loogma et al., 2004; Newswire, 2007; T. Sullivan, 2008)(see Section 3.3.4) and studies on why the IT sector fits contingent employment (Barley & Kunda, 2004f; Bidwell & Briscoe, 2009; Devine, 2011; Gregory, 2001; Holland et al., 2002) (see Section 3.3.5) were also surveyed. Lastly, the future of contingent employment (Chaturvedi, 2010; CTHR, 2009; Goldsmith, 2007; Lepak et al., 2003; MacDougall & Hurst, 2005; Manpower, 2009b; Redpath et al., 2007) (see Section 3.3.6) was also studied to forecast the likely trends in the near future. The literature survey outcomes on the second theme are presented in Section 3.3 of this thesis. They support the case study and comparative analysis that contribute to research objective two (To identify and explain the contingent and permanent employment policies of IT professionals (including project managers) in large Hong Kong organisations) and partially to objective three (To investigate and explain the impacts of contingent employment policies on IT project management capabilities enhancement).

Table 3.2 (Summary of advantages and disadvantages of contingent employment) is taken as the theoretical basis to compare and contrast the three case studies’ viewpoints on utilising contingent employment. This is a way to achieve objective five (To identify and present possible solutions to satisfy the needs to enhance IT project management capabilities under contingent employment practice) of this research.
Literature surveyed on the third theme (enhancing IT project management capabilities) aim at searching for studies and theories to contribute to research objective three (To investigate and explain the impacts of contingent employment policies on IT project management capabilities enhancement) and objective four (To identify and explain the practices of enhancing IT project management capabilities as an individual, as a group and as a large organisation). IT project management capability is not just the capability of project managers but also that of the organisation implementing the projects. The ability to learn and enhance individual and organisational capabilities is essential to project and business success. There are numerous studies regarding developing individual project manager capabilities and career paths (Baccarini, 2006; Brandel, 2010; Ensworth, 2001; Huemann, Turner et al., 2007; Ladika, 2008; J. Sullivan, 2004; Turner, 2003) (see Section 3.4.1). There are vast discussions about formal and informal learning practices (Barley & Kunda, 2004f; Benner, 2002e; N. Day, 1998; Dulaimi, 2005; D. T. Hall & Kahn, 2002; HKITPC, 2009; IPMA, 2012; Kerzner, 2009; Loogma et al., 2004; Nerland & Jensen, 2007; OGC, 2002; Peel & Inkson, 2004; PMI, 2008a; Rad & Levin, 2002a; Robb, 2007; Sauve, 2007) to acquire individual project management capabilities (see Section 3.4.2). However, in the context of contingent employment, contingent workers are likely to experience some learning difficulties (Barley & Kunda, 2004f; Bidwell & Briscoe, 2009; D. T. Hall & Kahn, 2002; Loogma et al., 2004; Nerland & Jensen, 2007; O'Donoghue & Maguire, 2005; Peel & Inkson, 2004) (see Section 3.4.3). From the organisation perspective, organisational learning capability to acquire IT project management knowledge is becoming critical to business success in the new economy (Berggren et al., 2001; Crossan et al., 1999; DeFillippi, 2002; Julian, 2008; Lampel et al., 2008; Logue, 2004; Prencipe & Tell, 2001; Schindler & Eppler, 2003; Söderlund, 2011) (see Section 3.4.4). A number of three-level (individual, group or team, and organisation levels) organisational learning models were studied (Crossan et al., 1999; Järvinen & Poikela, 2006; Prencipe & Tell, 2001) (see Section 3.4.5) to provide insight how organisational learning has been theorised. The Järvinen & Poikela (2006) process model of learning at work (see Figure 3.5) was chosen as the theoretical framework to compare and analyse the three case study organisations’ learning practices within the organisation boundary. It is a contemporary and comprehensive model that has integrated three renowned learning models from Kolb(1984), Nonaka & Takeuchi (1995) and Crossan et al. (1999). However, learning within the organisation boundary seems to be inadequate in the context of IT project management that utilises a dynamic contingent workforce. People may not stay within the organisation boundary beyond the project duration. In order to achieve objective five (To identify and present possible solutions to satisfy the needs to enhance IT project management capabilities under contingent employment practice), the literature survey expands to include the study of social capital and communities in project management (Bredin, 2008; Chi et al., 2009; DeFillippi & Arthur, 1998; Ellison et al., 2006; Lave & Wenger, 1991; Lesser et al., 2000; Nahapiet & Ghoshal, 1998; Rad & Levin, 2002a; Sauve, 2007; Walker & Christenson, 2005) with special reference to the experience in the film industry (DeFillippi & Arthur, 1998) (see Section 3.4.6). Organisational learning models beyond organisational boundaries (Arthur et al., 2001; Hedlund, 1994) (see Section 3.4.7) were also
surveyed to provide insight to the solutions in the context of this research. The literature survey outcomes on the third theme are presented in Section 3.4 of this thesis.

4.3.2. Phase II – pilot interview study

Phase II is the pilot interview study. The rationale behind this phase has been lack of proven referential studies that cover all the three core themes of this research. From over 200 literatures referred to in this thesis, none of them cover all the core themes of this research (see Section 4.2.1). The literature surveyed up to early 2012, either missed out the one or more of the elements: IT, project management, contingent employment and learning. Among the literature referred in Chapter 2 and Chapter 3, over 50 of them had studied contingent employment, but only 13% of them also discussed the project management knowledge area; over 50 of the literature reviewed discussed project management learning, but less than 20% was IT specific; among the 30 literatures on IT project management, only 4% touched on contingent employment. Therefore, there was a genuine need to carry out pilot case studies (Yin, 2003) to collect more data in the research context, inform the researcher further about the themes of the research, validate if the planned research processes can be operated in real life, and formulate the interview questions of Phase III – case studies.

Two organisations were selected in this phase. They are typical large employers of IT workforces in Hong Kong (see Section 2.4.1). The first organisation is a large public organisation. It utilises a high percentage of contract IT staff. These contract staff are hired through this organisation’s skill procurement contract or from the OGCIO’s ‘body-shopping’ contracts (also named as T-contracts)(OGCIO, 2008a). The second organisation is a large IT service provider that also employs a high percentage of contingent IT professionals including project managers. These two organisations are representative of large employers of IT professionals that have a strong reliance on contingent employment policies in Hong Kong. Two open-ended in-depth interviews around the three core themes of this research were conducted in each organisation. The participants were contingent IT project managers and their hiring managers. There were no pre-defined questions. The participants were asked for their views on the topic of this research - “Exploring contingent employment policy in IT - impacts upon IT project management capabilities enhancement in large Hong Kong organisations” and the three core themes: IT project management, contingent employment, and enhancing IT project management capabilities from their organisation and personal perspectives.

This phase utilised open-ended questions to allow the information with limited knowledge before the pilot interview study to emerge from the participants (Creswell, 2003; Yin, 2003). In addition, a vast volume of data, theories and theoretical models around the core themes of the research have been collected from Phase I (literature survey). These jointly formed the first version of the interview questions below (see also Appendix B2 interview protocol v1.0).
From the project management and employing organisation perspective:

Q1. What are the reasons for hiring a contingent IT professional?
Q2. How does contingent employment of IT professionals impact effective project management at the project and organisational level?
Q3. How can any identified problems associated with hiring contingent employment of IT professionals be solved?

From the contingent contract IT professional perspective:

Q4. What are the reasons for becoming a contingent IT professional?
Q5. How can IT professionals hired on a contingent employment basis gain sufficient context-related skills and experience to be effective project team members?

In total, five open-ended questions were designed. The questions were designed so as to ask “respondents about the facts of [the research] matter as well as their opinions about events”(Yin, 2003, p. 90). The aim of the questions is “to develop an understanding of the respondent’s ‘world’”(Easterby-Smith et al., 2008, p. 145). The questions also “ask the respondent to propose his or her own insights into certain occurrences and [the researcher] may use such propositions as the basis for further inquiry”(Yin, 2003, p. 90). Therefore, the research questions were respondent oriented depending on their role and experience in their organisation (‘real world’). One set of questions (Q1, Q2 and Q3) were to be answered by senior executives, IT managers or project managers who have authority to lead IT projects and influence related policies of the case study organisation; another set of questions (Q4 and Q5) were to be answered by individuals who had been or were contingent workers involving in IT projects. Furthermore, each question is designed to centre on the research objectives of this thesis. Table 4.2 below tables which the interview questions support which research objectives.

The data collected and analysed in Phase I and Phase II not only support the interview question design, but also provide information for the upcoming case study interviews in Phase III. This is comparable to what Gillham (2000) describes, “the prompts will have derived from other data and/or previous interviews, i.e. pilots for the real thing. [The researcher] will know certain elements have to come up. If a particular interviewee omits to mention one [the researcher] simply ‘prompt’ them by saying ‘what about …?’ [This is] ensuring that all interviews have comparable coverage”(p. 67). The outcomes from this phase are documented in Chapter 5 of this thesis.
Table 4.2: Case study interview questions supporting research objectives matrix

<table>
<thead>
<tr>
<th>Research Objective</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To explore the importance of continuous advancement of IT project management capabilities to business successes</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. To identify and explain the contingent and permanent employment policies of IT professionals (including project managers) in large Hong Kong organisations</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. To investigate and explain the impacts of contingent employment policies on IT project management capabilities advancement</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4. To identify the practices of advancing IT project management capabilities as an individual, as a group and as a large organisation</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. To identify and present possible solutions to satisfy the needs to advance IT project management capabilities under contingent employment practice</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

4.3.3. Phase III – case studies

This research takes the multiple case study research strategy (see section 4.2.3). This section provides the details of case study processes, data collection and data analysis. A case study is an exploration of a ‘bounded system’ (Yin, 2003), and in this research it is the exploration of three case study organisations. In-depth data collection includes triangulation document collection (see Appendix C) about the case study organisations and interviews of research participants. These participants are those who work or have worked in a case study organisation and participate or have participated in certain IT project management capabilities enhancement related activities.

In this phase, three case study organisations were identified. It is a ‘multiple-case design’ of Yin (2003) or ‘collective case study’ as defined by Denzin & Lincoln (1994) (see Section 4.2.3). The three case study organisations are typical large organisations who are major employers of the Hong Kong IT workforce. The majority of the IT employees (68%) are employed by a small number of companies (7.8%) that employ more than 50 employees (VTC, 2010 Figure 8) (see Section 2.4.1); and the ‘IT users organisations’ and the ‘IT and communications services organisations’ are the two key categories of employers (VTC, 2010). All the three case study organisations satisfy the ‘large Hong Kong organisation’ definition (see Section 2.2). This research used a purposive sampling strategy (Green, 2002), and the cases selected were ordinary cases (Creswell, 1998) but representative ones. All case study organisations are typical large employers of Hong Kong IT staff. However, the three cases selected are significantly different such that cross-case comparisons (Denzin & Lincoln, 1994; Miles & Huberman, 1994; Yin, 2003) can be made later in Phase IV – Comparative Analysis. The first case study organisation is from the public sector; it is a typical IT users organisation. It has employed about 8,000 employees, of which almost 400 of them are IT staff under the IT department.
The second case study organisation is an international IT service provider, a typical IT and communications services organisation. It employed almost 1,000 employees in Hong Kong, and the IT group under study (the IT services business unit) had about 200 IT staff. These two organisations represent the two categories of Hong Kong employers (VTC, 2010). Over 50% of the IT workforce in the IT group/department under study in both organisations was contingently employed when the research was conducted. They were invited to participate in the research through the researcher’s personal network (see Section 4.2.3). The third case study organisation is from the finance sector. It is a typical end-user organisation and employed almost 2,000 employees with over 100 IT staff in its IT department when the research was conducted. It is a representative organisation that employs a low percentage (less than 20%) of its IT workforce in contingent employment terms. The researcher was introduced to the CIO of this organisation through a local professional project management association and had no prior knowledge of this case (see Section 4.2.3). All the above figures were collected between August 2009 and February 2010; they are subject to change over time. Some of the above IT groups or organisations have undergone organisational changes, mergers and acquisition after the case study interviews were completed by early 2010. Updates were supplemented as participants voluntarily reviewed the interview summaries across 2010 and the draft case study reports in late 2011. Furthermore, each case study had at least one participant who was a project manager or above position in the case study organisation and provided face-to-face feedback to the researcher when the case study reports were presented to them in late 2011. This is part of the Phase V – validation process of this thesis (see Section 4.3.5).

Details of the case study organisations can be found in Chapter 6, 7 and 8 of this thesis. For each case study, an employer invitation letter including an initial interview protocol (see Appendix B1) was sent to a management representative who is the sponsor to the case study. With confirmation from a case study organisation that supported this research, potential participants’ names and phone number were supplied to the researcher by the case study sponsor. The approved RMIT ethics processes were adhered to throughout the research. Before conducting individual interviews, the potential participants were contacted by phone explaining what the research was about and what their roles were. Those who verbally accepted the invitations received the letter of invitation (Appendix B1), an interview protocol with the appropriate version of research questions (Appendix B2) and the consent form (Appendix B3) from the researcher prior to conducting the interviews. The participants signed the consent forms before the actual commencement of the interviews. More potential participants were introduced to the researcher by the participants. However, not all potential participants were contacted as the researcher tried to acquire views of participants from different levels in different roles to provide broader views regarding a case study organisation and its IT project management advancement practices. All participants that engaged were those who have participated in IT project management capabilities enhancement activities in various ways. The targeted participants were IT departments or the IT groups’ managers, human resources managers, training managers, knowledge
management leaders, PMO managers, IT project managers (including permanent employees and contingent employees) and/or IT project leaders (including permanent employees and contingent employees). It is a purposive sampling method (Green, 2002). Having a list of potential participants more than the actual number of participants also serves the purpose to let all the participants remain anonymous and keep the identity of each participant confidential. No single participant involved in a case study is aware of the full list of participants in the corresponding case study.

The researcher adopted the theoretical sampling method as the data collection method suggested by Corbin (2008 Chapter 7) - “a method of data collection based on concepts/themes derived from data” (p. 143). Each case study organisation was expected to have six to eight participants. At the end, all the three case study organisations had six participants. The researcher conducted the interviews in multiple batches. One to two participants from the same case study organisation were involved in each batch. With theoretical sampling as the data collection method, the previous interviews’ data impact the subsequent interviews’ participant selection and the data collection questions. The advantages of theoretical sampling are it “enables researchers to discover the concepts that are relevant to this problem and population, and allows researchers to explore the concepts in depth. Theoretical sampling is especially important when studying new or unchartered areas because it allows for discovery”(Corbin, 2008, p. 145). This is the situation of this research; with limited research references, this research has utilised the exploratory nature research design (see Section 4.2). Therefore, in this research, seven versions of questions were used (see Appendix B2 - interview protocols versions 1.0, 1.1, 1.2, 2.1, 2.2, 3.1 and 3.2). Interview protocol version 1.0 was the base version used in both case one and case two. Two participants from each case answered questions per this protocol. Protocols version 1.1 (was answered by one participant), and 1.2 (was answered by three participants), which were used for case one; protocols version 2.1 (was answered by two participants) and 2.2 (was answered by two participants), which were used for case two. Case three did not use interview protocol version 1.0 but protocol version 3.1 (was answered by four participants), and 3.2 (was answered by two participants) because case study three did not employ a large percentage of contingent IT workers. The interview questions had been revised to fit the situation. Each version had some minor variation from the previous version used in the same case study. The purpose is to have later batches interviews to validate concepts / themes collected or collect additional support on concepts / themes from previous interviews of the same case study.

The interview protocols were structured to ask three sets of questions. All participants answered the ‘Interviewee Background’ set of questions (see Appendix B2 interviewee background), which was semi-structured (Creswell, 2003; Gillham, 2000). It is “both flexible and, at the same time, standardised. [It] covers essentially the same ground”(Gillham, 2000, p. 69). The questions inquired about the interviewee’s working history in the organisation and in the industry, his or her education level and formal project management qualification. It was common across all three case studies. This
facilitated cross case analysis in the next phase. The second and third sets of questions were the actual ‘Research Questions’. The initial list of questions (see Appendix B2 interview protocols version 1.0) was from the outcome of Phase I (literature survey) and Phase II (pilot interview study) (see Section 4.2.3). For all case studies, the second set was answered by participants ‘from the project manager / project director and employing organisation’ perspective (see Appendix B2). If the participant was not at the managerial level of the organisation, this set of questions was skipped. The third set of questions was similar for case one and case two; it was from ‘the contingent contract IT professional’ perspective (see Appendix B2). This set of questions was bypassed if the participant had never been contingently employed. For case study three, the organisation employed a low percentage of contingent IT workers. Therefore, the third set of questions was answered from the view of ‘an individual IT professional’ perspective (see Appendix B2).

The ‘Research Questions’ were open-ended, and interviews were conducted through an individual face-to-face basis in a venue selected by the participants. Following the interviews, summaries were prepared and sent back to participants for validation. Simultaneously, the interview data were analysed (see Section 4.4 below). The purpose is to identify concepts and categories and look for gaps that can be filled or validate new findings in subsequent interviews. It is a way to triangulate (Bryman & Bell, 2003; Denzin & Lincoln, 1994; Gillham, 2000; Yin, 2003) the data collected. This is the “process of using multiple perceptions to clarify meaning, verifying the repeatability of an [...] interpretation” (Denzin & Lincoln, 1994, p. 241). The research planned that after six interviews an assessment would be made for signs of data saturation (that is if a few new concepts emerged from an interview) for each case study. If this appeared to be saturation then it was assumed no more interviews were necessary. Otherwise, additional interviews would be conducted until data saturation (Corbin, 2008). In all the three cases, six interviews were found to be enough to reach this status. Furthermore, at the end of the interviews, participants were invited to voluntarily provide documentation or archival records that could be shared to the researcher as part of the triangulation data. After that, detailed data analysis could be performed (see Section 4.4 below), and the three case study reports (Chapter 6, 7 and 8) could be developed.

4.3.4. Phase IV – comparative analysis

Phase IV – comparative analysis was commenced once Phase III – case studies were completed, and the individual case study’s analysis was finished. Cross case comparison of the three case studies was conducted. The outcome of this phase (Chapter 9) informed the research findings of the whole thesis.

Yin (2003) states that a multiple case design is more compelling and robust than a single case study and is about inquiring into some general condition (Denzin & Lincoln, 1994). Miles and Huberman (1994) also argue that aims of studying multiple case are “to increase generalisability, reassuring [the researchers] that the events and processes in one well-described setting are not wholly idiosyncratic
[and] to see processes and outcomes across many cases, to understand how they are qualified by local conditions, and thus to develop more sophisticated descriptions and more powerful explanations” (p. 172). Cross comparison identifies missing themes or overlooked analysis issues in each case study.

The three case studies were analysed by utilising common theoretical frameworks or models, and the reports (Chapter 6, 7 and 8) were organised in the same structure (see Section 4.4.1). This phase compares and contrast themes and concepts across case studies to identify similarities and differences. The detailed process of data analysis of this phase can be found in Section 4.4.2 below. The conclusions generated in this phase form a possible solution or a model of this thesis and achieved objective five (To identify and present possible solutions to satisfy the needs to enhance IT project management capabilities under contingent employment practice) of this research. They are documented in Chapter 9 of this thesis and are validated in Phase V – validation for the final research outcome confirmation.

4.3.5. Phase V – validation

Phase V – validation is the last phase of this research. The purpose is to verify the findings and the potential solution model. The researcher presented the corresponding case study report and the potential solution model from Phase IV to at least one representative participant (with a job position as a project manager or above) from each case study organisation to provide face-to-face feedback so as to verify the researcher’s understanding and conclusions. In addition, these initial case study findings were sent to the corresponding case study participants for voluntary feedback. Furthermore, as there was almost a two year gap between the time the case study interviews were conducted and the case study findings were sent for validation; there were changes in the case study organisations’ practices and individual participants’ viewpoints. This phase also serves the purpose to update the data collected and refine the research findings and the solution model. This phase is an essential step to ensure the reliability and validity (Bryman, 2001) of this qualitative research. In simple terms ‘reliability’ is the degree to which a measure of a concept is stable; and ‘validity’ is the degree to which a measure of a concept truly reflects that concept (Bryman, 2001). This is part of the processes to assure the quality of the research (see Section 4.5). After this phase completed, the case study reports (Chapter 6, 7 and 8) and the comparative analysis outcomes (Chapter 9) were revised. Finally, the research findings were analysed against the research objectives to develop the conclusion of this thesis (see Chapter 10), and this thesis was then revised and finalised.
4.4. Data analysis

4.4.1. Individual case data analysis

Theoretical sampling (Corbin, 2008) as the data collection method was adopted for this research. The researcher conducted interviews in multiple batches for each case study. One to two participants were involved in each batch (see Section 4.3.3). After each batch of interviews, interview summaries were prepared by the researcher. Once interview summaries were validated by individual participants, the interview data were codified and analysed. Analysis was documented in the form of memos and diagrams (Corbin, 2008, Chapter 6). The initial list of concepts and sub-concepts were derived from the memos and diagrams using the open coding technique (Corbin, 2008, Chapter 9). After analysing one batch of interviews, new sets of interview questions were derived (see Appendix B2 interview protocols) to support concepts identified and to collect additional data to support new concepts. This process was repeated until only few, if any, new concepts emerged in each case study. This is the sign of data saturation (Corbin, 2008).

This data analysis approach is best represented by a data analysis spiral (Creswell, 1998). Figure 4.3 below is the data analysis spiral from Creswell (1998). This research’s data analysis fell into a form of spiral process where “the researcher engages in the process of moving in analytic circles rather than using a fixed linear approach. One enters with data of text or images [...] and exits with an account or a narrative. In between, the researcher touches on several facets of analysis and circles around and around”(p. 142).

![Figure 4.3: The data analysis spiral. Source: Creswell (1998 Figure 8.1)](image)

In between the loops of the spiral, the researcher utilised the data analysis tools suggested by Corbin (2008). Among the different analytical tools, the ‘use of questioning’, ‘making comparisons’ and
‘drawing upon personal experience’ were the frequently used analytical tools in this research. Other tools such as ‘thinking about the various meaning of word’, ‘looking at language’ and ‘looking at emotions that are expressed and the situations that aroused them’ were also used on some data analysis. As Corbin (2008) suggests, ‘Asking questions’ enables the researcher to probe, develop provisional answers, think outside the box and become acquainted with the data. This has been an important analytical tool when combined with the theoretical sampling technique. New questions were developed during the process of ‘asking questions’. The researcher then prepared the next set of interview questions (see Section 4.3.3).

‘Data’ from interviews supporting the concepts and sub-concepts were put into a table format. More memos were developed for the axial coding so as to crosscut and relate concepts to one other. After analysing one batch’s interviews, new sets of interview questions might be derived to support concepts identified and to collect additional data on concepts. This was repeated until only a few new concepts were generated in each case study. With the completion of data analysis all the batches of interview data in each case study, ‘data’ collected from triangulation documents (see Appendix C) about the case study organisations (see Section 4.4.3 below) were also analysed as supplements to the interview findings. The outcomes were drafted and documented as a draft version of Chapter 6, 7 and 8 of this report. The case study reports of each case were documented in the same structure. Section 1 was the introduction of the case study organisation and the participants. Section 2 was about contingent employment policies and practices of the case study organisation. Section 3 discussed the importance of IT project management capabilities to the case study organisation’s business and IT projects. Section 4 described the impacts of contingent employment from the organisation and contingent worker perspectives. The literature survey outcome Table 3.2 (Summary of advantages and disadvantages of contingent employment) was taken as the theoretical basis to compare and contrast the three case studies’ viewpoints on utilising contingent employment. Section 5 detailed the findings on organisational learning and project success. The process model of learning at work from Järvinen & Poikela (2006) (see Section 3.4.5.3) and multiple process view of IT projects from Sauer & Reich (2009) (see Section 3.2.3.3) was applied as the theoretical framework to analyse each case study’s organisational learning practices and measures of project success. Section 6 was about developing and maintaining social capital, and Section 7 discussed learning beyond organisational boundaries. These two sections drew on literature from Chapter 3 to analyse the specific characteristics of the case studies. Lastly, Section 8 was the conclusion and summary of a case study. After completion of Phase IV – comparative analysis and Phase V – validation, each case study report would be further updated according to feedback from participants and updated triangulation documents.

4.4.2. Cross-case comparative analysis

The ‘case-oriented approach’ (Miles & Huberman, 1994) using the ‘cross-case synthesis’ technique (Yin, 2003) is applied in Phase IV – comparative analysis (see Section 4.3.4). Miles & Huberman
(1994) state that “[a] case-oriented approach considers the case as a whole entity, looking at configurations, associations, causes and effects within the case – and only turns to comparative analysis of a (usually limited) number of cases. We would look for underlying similarities and constant associations […], compare cases with different outcomes […], and begin to form more general explanations” (p. 174). In this research, the three cases had a similar context – key employers of IT workers and facing challenges in the Hong Kong community. However, they were different in terms of their industrial sector background (case one was from the public sector, while case two and case three were from the business sector), the employer type (case two was an IT and communications services organisation while case one and case three were end-user organisations), and contingent employment policy (case one and case two employed large percentage of contingent IT workers, while case three employed a low percentage of contingent employees). Each case might generate similar or different concepts and themes when performing the case study data analysis in Phase III – case studies (see Section 4.4.1). Each case’s concepts and themes were tabulated into “word tables […]] according to some uniform framework” as suggested by Yin (2003, p. 134). The overall pattern in a word table led to certain conclusion. Additional word tables, reflecting other processes and outcomes of interest, were examined in the same way. The analysis of the entire collection of word tables enables the study to draw cross-case conclusions. This is the ‘cross-case synthesis’ technique described by Yin (2003, p. 135). In this stage, all triangulation data collected (see Appendix C) from individual case study organisations and relevant sources were also referenced to support conclusions generated.

4.4.3. Triangulation

Triangulation is recommended by various scholars (Bryman & Bell, 2003; Denzin & Lincoln, 2000; Gillham, 2000; Yin, 2003) to ensure that gathered data are valid, reasonably accurate and sufficient for the purpose intended. Bryman & Bell (2003) define triangulation as it “entails using more than one method or source of data in the study of social phenomena. The triangulation metaphor […] refers to the process whereby multiple reference points are used to locate an object's exact position” (Box 13.4). The researcher utilised triangulation data to prepare the research interview questions, the prompts and probes (Easterby-Smith et al., 2008; Gillham, 2000) and validate findings from the previous interviews in subsequent interviews (see Section 4.3.3). This increases the reliability and validity (Bryman, 2001) of the research (see Section 4.5). Most of the triangulation documents were collected prior to conducting interviews of each case study. There are mainly two categories of triangulation documents. The first type is context related and non-case specific such as government information, industrial bodies’ information, project management training providers’ offerings, major universities’ IT and project management related education programmes, relevant public surveys, IT industry related study reports and others. They are available in the form of hard copies, electronic copies or public web sites. The second type is case-specific documents. They include case study organisation company profiles, organisation structure charts, publications, organisation web sites, employment
policies, internal and external training policies, project tools used, and other information provided by
the case study participants (see Appendix C). Each case study organisation provided different set of
triangulation documents. Some organisations might have more publically available information than
others. For example, the first case study organisation is from the public sector. Information in relation
to government policies is applicable to it. Such information is readily available to the general public.
Some organisation specific meeting minutes and reports are also publically available to the general
public. The second case study organisation is an international IT and communications services
organisation. Its corporate portal has detailed information regarding its people policies and principles
to attract talents. However, Hong Kong specific policies are not available. The third case study
organisation has a local web site and therefore provides more Hong Kong specific data about the case
study organisation instead of its corporation.

4.4.4. Data validation
In this research, each participant attended an interview of approximately 60 minutes in duration. After
each interview, individual participant received an interview summary from the researcher to check for
accuracy. All 18 participants responded to the researcher’s requests. Four edited the summary reports
and sent them back to the researcher to clarify some concepts discussed; two provided verbal
feedback to the researcher over the phone, while the others confirmed the accuracy of the interview
summaries by sending confirmation emails to the researcher. The researcher also made a few
clarification phone calls and face-to-face meetings with two to four participants in each case study. A
draft version of the case study report (Chapter 6, 7 or 8) and the potential solution model derived from
Phase IV – comparative analysis were presented face-to-face to at least one participant who held a
project manager or above position in each case study organisation to validate and to ensure coherency
of its content. Their comments were taken as inputs to revise Chapter 6, 7, 8 and 9 of this thesis. This
revised version was taken as the initial findings of this thesis. Each participant received these initial
findings through email and provided voluntary feedback to the researcher. Chapter 6, 7, 8 and 9 were
further revised upon receiving valuable comments.

4.5. Research Quality

Explicit discussions of quality in social research, though, began from concerns designated with
words such as validity and reliability, developed within the quantitative or scientific tradition,
and then moved on under the pressure of critique from the qualitative research community (Seale,

The central question - “How do you know that the qualitative study is believable, accurate, and
‘right’?” (Creswell, 1998, p. 193) has no simple answer. Many scholars have tried to answer this
question from multiple views and paradigms (Creswell & Miller, 2000; Golafshani, 2003; Seale, 1999;
Stenbacka, 2000; Winter, 2000). The terms ‘reliability and validity’ are commonly referred to when
discussing quality of research; they began from quantitative researches but then were applied on qualitative research. In the qualitative community, when referring these two terms, the concepts internal and external ‘reliability and validity’ as parallel qualitative equivalents to the quantitative terms from LeCompte & Goetz (1982) are mentioned (Bryman & Bell, 2003; Creswell, 1998; Creswell & Miller, 2000; Seale, 1999; Yin, 2003). As per LeCompte & Goetz (1982) “reliability is concerned with the replicability [and] validity is concerned with the accuracy” (p. 32) and the four terms - “External reliability addresses the issue of whether independent researchers would discover the same phenomena or generate the same constructs in the same or similar settings. Internal reliability refers to the degree to which other researchers, given a set of previously generated constructs, would match them with data in the same way as did the original researcher [...] Internal validity refers to the extent to which scientific observations and measurements are authentic representations of some reality. External validity addresses the degree to which such representations may be compared legitimately across groups”(p. 32). Among the four criteria, ‘external reliability’ is the most difficult criterion to meet in qualitative research as it is impossible to ‘freeze’ a social setting of the initial study and make if replicable (Bryman & Bell, 2003). LeCompte & Goetz (1982) also admits that researchers “may approach rather than attain external reliability”(p. 37). Bryman & Bell (2003) see that ‘internal validity’ whether there is a good match between the researcher’s observations and the theoretical ideas they develop; ‘external validity’ refers to the degree to which findings can be generalised across social settings; while ‘internal reliability’ means whether, when there is more than one observer, members of the research team agree about what they see and hear (Chapter 13). However, not all qualitative researchers are satisfied with these parallel qualitative equivalents, a variety of perspectives and terms have been proposed alternatives such as ‘Creditability, Transferability, Dependability, Confirmability’ (Lincoln & Guba, 1985), ‘Ironic validity, Paralogic validity, Rhizomatic validity, and Situated/embedded voluptuous validity’ (Lather, 1993) and others. Creswell (1998; 2003), however, sees that techniques are required to ‘operationalise’ these quality perspectives and terms; he finds a set of verification procedures operate regardless of perspectives and terms. He proposes eight verification procedures: ‘triangulation’, ‘use member checking’, ‘use rich, thick description’, ‘clarify the bias’, ‘present negative or discrepant information’, ‘spend prolonged time’, ‘use peer debriefing’, and ‘use external auditor’.

In this thesis, the quality of research was built in the design and executed throughout the research processes. Table 4.3 below lists the actions taken in this research classified according to Creswell’s (1998) eight verification procedures and how they delivered ‘internal validity’, ‘external validity’ and ‘reliability’ (with a focus on internal reliability) as defined by LeCompte & Goetz (1982). It is the researcher’s self assessment on what actions have built in the research design and contributed to the three quality criteria of research.
Table 4.3: Summary of actions contributing to quality of research

<table>
<thead>
<tr>
<th>Verification procedure</th>
<th>Action in this thesis</th>
<th>Internal validity</th>
<th>External validity</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Triangulate</strong> Used multiple data source, multiple cases and multiple interview batches per case, (see Section 4.3.3).</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><strong>Use member-checking</strong> Participants validated interview summary and case study outcomes; At least one participant in a senior position provided face-to-face feedback on case study outcomes (see Section 4.4.4).</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><strong>Use rich, thick description</strong> Described research processes, protocols and data analysis procedures in detail (see Section 4.3 &amp; 4.4); Described case study reports in plain English and terminologies of participants; used participants’ quotes to explain concepts (see Chapter 6, 7, 8)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><strong>Clarify the bias</strong> Explained researcher’s background, research rationale (see Chapter 1, Section 4.2.1 &amp; Appendix A); Used open-ended question and multiple cases to avoid bias.</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><strong>Present negative or discrepant information</strong> Used multiple cases from different backgrounds although they were all typical large IT employers; Used case 3 with a low percentage of contingent IT workers to present opposite views.</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><strong>Spend prolonged time</strong> Collected data from real world participants in a prolonged time: pilot case (late 2008), case study interviews (mid 2009 to early 2010), case study interview summary feedback (2010), feedback on case study reports (late 2011); Reviewed literature in multiple iterations before and during case study duration.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><strong>Use peer debriefing</strong> At least one participant in a senior position walked through the case study report and provided face-to-face feedback on case study outcomes; Co-supervisor of this thesis reviewed and provided feedback on drafts of each chapter along the entire research period.</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><strong>Use external auditor</strong> Supervisor of this research provided guidance and periodic assessment on research processes, progress and contents of the thesis.</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
4.6. **Ethical Consideration**

Each of the three case study organisations is a large organisation. Participants should have no risk or minimal risk of being personally identified because only six representatives in a large group (range from over 100 to almost 400) of IT project staff were interviewed. The design of the research assured all responses were kept confidential at all time. The participants’ identities were kept anonymous on all draft paperwork and this formal thesis. The participants and organisation are only identified by pseudonyms such as A, B, C and others. The names of the case study organisations are not disclosed. This thesis does not document findings of any single interview but summarises them in a generalised and summarised format. All audio record files were coded with unrelated legends and password protected. The relation of coding legends and interviews are kept separately and also password protected. Every participant read and signed a consent form (Appendix B3) prior to his or her interview. He or she had access to the interview protocol prior to attending the interview, and participation was entirely voluntary. He or she was able to halt the interview or choose not to answer certain questions. The participant checked his or her corresponding written interview summary of audio recorded interview and advised the researcher on the accuracy. Participants were free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied.

4.7. **Chapter Summary**

This chapter provides the background and philosophical justifications on the selection of the research design and data analysis approaches and details the research procedures. It is a research on a topic that has limited referential research. This thesis used the constructivist assumption to claim knowledge; the research strategy was case study; the research method mainly relied on open-end interviewing supported by semi-structure interviews and triangulation techniques. It basically took the qualitative approach (see Section 4.2). The research processes included five phases: Phase I – literature survey, Phase II – pilot interview study, Phase III – case studies, Phase IV – comparative analysis and Phase V – validation. Details have been described in Section 4.3 above. The data analysis approach included individual case study data analysis, cross-case comparative analysis, cross referencing to triangulation documents and data validation by participants (see Section 4.4). Before closing this chapter, the assurance of the quality of this thesis (see Section 4.5) and the related ethical consideration applied in this research (see Section 4.6) are also explained. The next chapter will present the outcome of Phase II – pilot interview study.
Chapter 5 - Pilot Interview Study Analysis

5.1. Introduction

Phase 2 – the pilot interview study is introduced because there is a lack of proven referential studies that link all the themes (IT project management, contingent employment, and enhancing IT project management capabilities) of this research (see Section 4.3.2). A pilot interview study was conducted before finalising the research design of later phases of this thesis and commencing any further research field work. The objective was to collect data to confirm if the planned research method can be operated in real life and to refine the research design and formulate the interview questions of Phase 3 – case studies. This chapter presents the outcomes of four open-ended in-depth interviews from two typical IT workforce employers in Hong Kong (pilot interview study organisations). The participants are contingent IT project managers and their hiring managers.

5.2. The Two Pilot Interview Study Organisations

According to the literature survey outcomes of Hong Kong IT context and the experience of IT veterans in Hong Kong, IT service providers and government bureaux or departments are among the major employers of contingent IT workforce in Hong Kong (see Section 2.4.4). An organisation from each of these two categories of organisations was studied in Phase 2 – pilot interview study. The first pilot interview study organisation is the Hong Kong branch of a multi-national IT service provider (referred to as IS-SP in this thesis). It is a sales office providing various IT services to the Hong Kong community. It is a typical IT and communications services organisations (VTC, 2010). The group under study is one of the IT services delivery business units. The organisation has over 800 permanent employees in Hong Kong. There is about 150 staff in the group under study, but only 30% staff members are permanently employed. All others are under different contingent employment terms. A small percentage of contingent employees have a direct employment contract with IS-SP, and a majority of them are hired through agencies. In addition, IS-SP uses subcontractors in Hong Kong and off-shore development centres in the Mainland China to partially fulfill the contractual obligations to its customers. In theory and in practice, in any one project, the project team members may include permanent staff, direct contract staff, contingent agency staff, subcontractor(s) staff and off-shore development centre(s) staff. The second pilot interview study organisation is a government department that delivers public services to the general public of Hong Kong and off-shore development centres in the Mainland China to partially fulfill the contractual obligations to its customers. In theory and in practice, in any one project, the project team members may include permanent staff, direct contract staff, contingent agency staff, subcontractor(s) staff and off-shore development centre(s) staff. The second pilot interview study organisation is a government department that delivers public services to the general public of Hong Kong (referred to as IS-PB in this thesis). It employs over 2,000 staff that includes both permanent and contingent employees. The group under study is the internal IT department of IS-PB. It is a typical end-user organisation(VTC, 2010). There are more than 150 IT employees in the group under study, with 40% of these staff are permanently employed as civil servants. Same as IS-SP, IS-PB also has a small percentage of contingent employees who have direct contracts with the organisation. A substantial number of contingent employees are hired through T-contract arrangement or a skill procurement contract (see
Section 2.4.4). They are arranged in the form of agency employment with the T-contract suppliers sourced centrally by the OGCIO and a skill procurement contract managed by IS-PB. In addition, IS-PB outsources IT projects through different procurement methods including tenders and standing contracts to IT service providers such as IS-SP. These project teams may work on-site at IS-PB’s venues or at the IT service providers’ own venues. Therefore, at IS-PB’s IT department, a mix of different types of staff may exist and work together as a project team.

5.3. Learning IT Project Management Capabilities

Participants A and B are the hiring manager and contingent project manager respectively from IS-SP. Participants C and D are the hiring manager and contingent project manager respectively from IS-PB. Participant B reported to Participant A, and Participant D reported to Participant C when this pilot interview study was conducted. They are all veterans of the Hong Kong IT sector with 20 to 30 years experience in the field. These four participants have expressed their views of enhancing IT project management capabilities in their roles as the hiring manager of contingent IT workers and the contingent project manager. There is a common phenomenon: their first response to this research’s topic was that there was little to no difference between the ways that permanently employed or contingently employed IT professionals learn and develop their project management careers. However, with further discussions, they identified that there were distinctive differences in certain aspects of learning in the context of contingent employment. In fact, both IS-SP and IS-PB’s participants have expressed concerns about the future of the Hong Kong IT sector with the increasing trend of using contingent workforce, including IT project managers.

“Today’s IT labour market direction is not healthy from my view” Participant A.

“Today IT services are purchased. There is no investment on the resources and a lack of home-grown experts. IT practitioners (especially contingent workers) look for well-being of self. They don’t spend time or energy to invest on learning” Participant C.

It should take note that cited quotes from participants throughout this thesis are translated by the researcher from Cantonese (a Chinese dialect) so while these quotes convey the meaning they are not the exact words used. However, the participants have validated the translated interview summary in English. They are expressed as close to the participants’ meaning as possible. In the following sections, the views of the four participants are analysed regarding learning and enhancing IT project management capabilities at individual, group and organisational levels in large organisations (see also Section 3.4.5 - Learning at three levels: individual, group and organisation). Two sub-sections are included at each level’s discussion. One is about those learning characteristics that are shared by permanent and contingent employment, and the other regards learning characteristics that are specific to contingent employment.
5.4. Individual Level PM Capabilities Enhancement

Pilot study responses regarding individual level project management capabilities enhancement are summarised as follows in Table 5.1 and then expanded upon in Sections 5.4.1 and 5.4.2, which detail the shared and specific characteristics respectively between permanent and contingent employments.

Table 5.1: Summary of phase 2 - pilot interview study findings at the individual level

<table>
<thead>
<tr>
<th>Permanent and Contingent Employment Shared Characteristics</th>
<th>Contingent Employment Specific Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acquiring project management skills is more an individual’s responsibility than that of an employer.</td>
<td>• Contingent employment helps the individual project practitioners to enrich his or her skills and experience.</td>
</tr>
<tr>
<td>• Both formal learning and on-the-job learning can be self-managed, not limited to relying training provided by employing organisations.</td>
<td>• Contingent employment key issues regarding gaining project management capabilities include:</td>
</tr>
<tr>
<td>• Under long tenured contingent employment terms, there is no obvious difference between a contingent and a permanent project manager.</td>
<td>o Limited career path;</td>
</tr>
<tr>
<td>• All project practitioners share the same difficulties in finding the right mentor.</td>
<td>o Limitation on learning critical project management skills such as project financial management;</td>
</tr>
<tr>
<td></td>
<td>o Limited training opportunities;</td>
</tr>
<tr>
<td></td>
<td>o Accumulating ineffective project management practices; and</td>
</tr>
<tr>
<td></td>
<td>o Maintaining marketable skills.</td>
</tr>
</tbody>
</table>

5.4.1. Permanent and contingent employments shared characteristics

“By nature, project management job is contingent. There is a start day and an end day. Such jobs can be outsourced by nature” Participant B.

“There is no difference in being a permanent or contingent project manager. The role of organisation in project management skill enhancement is minimal. Most learning is from on-the-job experience. Moreover, training programmes from professional bodies are open to all. There is no need to rely on organisation’s support” Participant D.

The views of the contingent project manager participants (Participants B and D) from both pilot interview study organisations are alike. IT project managers rely a lot on experiential learning at the work place. Project managers can always capture and enhance their project management capabilities from their project experience. Although the project manager’s role is critical to project success, there is nothing wrong for a project manager to be contingently employed as long as the tenure of employment was a long-term one (such as two years or more). They see under long tenure
employment, contingent project managers have comparable status and authority to that of permanent project managers in the employing organisations. Participants B and D see individual IT professionals learn to be project managers normally using a bottom-up approach. They start from a hands-on technical position in a few IT projects. With time, they start to lead small teams on simple tasks and gradually move on to lead larger teams on more complex tasks. While employers have a preference for project managers with formal qualifications, it is helpful for the IT practitioners to acquire some form of qualification such as a project manager credential, to advance their careers. Nevertheless, they see on-the-job learning is essential to being an effective project manager. Some form of mentoring from senior project managers will be very useful. Both participants see this is difficult to achieve regardless of the individual’s employment terms. It is not easy to identify good mentors (see Section 3.4.2.1) with the right skills and characteristics. The above viewpoints echo the findings from the literature surveyed in Chapter 3. The majority of the learning at the individual level is done informally (see Section 3.4.2.1). However, learning through a formal approach (see Section 3.4.2.2) is also essential when more organisations look for project managers with the related credentials.

5.4.2. Contingent employment specific characteristics

As an individual, a contingent IT worker moves from one job to another so as to expand his or her scope and exposure. This is similar to what Day (2008) says “[..] contracting is excellent for broadening your own skill set. Most contract positions will enrich your resume, be it a new skill or experience. You could probably build a completely different area of strength” (p. 26). It is an advantage from the learning perspective. However, contingent workers face other issues that limit their learning and career development. In terms of a career path, both IS-SP and IS-PB have a practice to convert contingent staff who demonstrate good performance to be permanent staff or to promote junior contingent staff to higher level positions such as contingent project managers. However, IS-PB participants see it is a difficult process as “all [internal] contingent staff [need] to apply for new position openings [in IS-PB] like any general public” (Participant C), and “the chance to advance to project manager position as a non-permanent staff is low” (Participant D). Furthermore, being a contingent project manager imposes some limitations that cannot be resolved no matter how long the tenure is, or how long he or she has been contingently employed to an organisation. In both IS-SP and IS-PB, a contingent project manager is prohibited to access or exercise authority on all financial matters, contractual matters, and hiring or firing of project team members. He or she is at a disadvantage in these aspects. This means a contingent project manager cannot learn certain critical project management skills on the job such as project financial control or contract negotiation skills. Providing funding to contingent IT workers for formal learning or certification activities are not officially offered in these pilot interview study organisations. In terms of organisational policy, time and budget allocation to training and development activities for permanent and contingent staff are substantially different. However, Participant A believes that it is not impossible to provide support for contingent staff members’ training and development if they have demonstrated good performance.
Organisations such as IS-SP have a flexible policy in investing on contingent workers’ development. Nevertheless, it is still based on the individual’s performance if such an opportunity will be granted or not. Lack of job security is another contingent employment specific issue. Participant C observes that because of the lack of job security, some contingent project managers feel that they are dispensable. They may not therefore exercise the best project management practices. A delay in a project may mean that a contingent project manager’s employment contract would be extended; late release of resources may mean he or she has less pressure on committing to project timelines. The contingent employment arrangement may have led to some project managers taking up these new ‘survival’ skills.

While IS-PB and IS-SP participants share a number of similarities on this research’s topic, there is one major difference. IS-PB’s contingent workforce, especially at the project manager and systems analyst level, have relative low attrition rate compared with those of IS-SP. According to participants of IS-PB, one of the reasons may be related to the low marketability of their skills. These contingent IT workers have limited opportunities to advance to next level or to be converted to permanent employment. The most valuable knowledge accumulated at IS-PB as a contingent IT professional is probably the people he or she networks with (such as the end users and staff in internal departments) to obtain organisational knowledge in addition to access to technological skills. Such skills and knowledge are not valuable beyond the employing organisation. Although there is a lack of career advancement and development in IS-PB, the jobs have comparable pay versus the private market, and the job security is relatively high as many contingent workers can renew their employment each year. Table 5.1 above summarises the individual level’s similarities and differences in contingent employment. Some of the findings tie with the literature survey outcomes regarding the issues of individual learning in the contingent context (see Section 3.4.3). The next section will compare the group level similarities and differences.
5.5. **Group Level PM Capabilities Enhancement**

The responses regarding group level are summarised as follows in Table 5.2 and then expanded upon in this section.

Table 5.2: Summary of phase 2 - pilot interview study findings at the group level

<table>
<thead>
<tr>
<th>Permanent and Contingent Employment Shared Characteristics</th>
<th>Contingent Employment Specific Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Project challenges are the same for all project managers.</td>
<td>• The treatment of contingent project team member depends on the way that the group views him or her as being either comparable to a permanent-staff member or comparable to a temporary staff member.</td>
</tr>
<tr>
<td>• Project managers and team members need to adapt to the project environment.</td>
<td>• The tenure of the contingent employment affects the behaviour of the contingent project practitioners on knowledge activities.</td>
</tr>
<tr>
<td>• A project management methodology is developed in large IT departments or groups as the basis to guide all project management work.</td>
<td>• Contingent project practitioners may be excluded from some information access or knowledge activities.</td>
</tr>
<tr>
<td>• Industrial certification programmes at the group level boost the project management maturity at the group level.</td>
<td>• Groups hiring contingent project managers establish bridging roles to complete tasks that contingent project managers cannot fulfil because of they are not permanent staff members.</td>
</tr>
<tr>
<td>• The PMO exists in large organisations as the component of a centre of expertise on project management.</td>
<td>• Mentoring is mostly informal; there is difficulty in identifying the right mentor.</td>
</tr>
<tr>
<td>• Formal knowledge sharing is less effective than informal knowledge sharing.</td>
<td>• The tenure of the contingent employment affects the behaviour of the contingent project practitioners on knowledge activities.</td>
</tr>
</tbody>
</table>

### 5.5.1. Permanent and contingent employments shared characteristics

The group refers to the department or business unit where IT project managers reside, and it hires IT project practitioners (including project managers) to deliver projects to its internal or external customers. The two project manager participants (Participants B and D) see that in most cases, challenges faced by permanent or contingent project managers and practitioners are the same since no two projects are the same; every project practitioner needs to adapt to a new project environment. The group under study in IS-SP is an IT services delivery business unit with all projects delivered on a contract basis to external customers. It is common that IS-SP staff work on-site at customers’ venues for a long period of time (in terms of months or even years). It is therefore not easy for IS-SP staff working on different projects in customer locations to meet one another on a day-to-day basis. There are regular management meetings. Formal project progresses, especially in relation to project payment
milestones, are discussed in such meetings. Project managers, regardless of their employment terms, rarely join these managerial level meetings. They are mainly involved in project meetings for their own projects. IS-SP has a PMO set up, and it serves multiple business units. The PMO plays a key role in promoting an organisation-wide project management methodology and provides governance support. The PMO reviews all large projects in pre-sales and delivery stages and monitors progress of projects with problems. It also plays a role in diffusing lessons learned from different projects when the PMO conducts reviews with project managers on monthly basis. The PMO brings in questions and knowledge from other projects to ensure the same mistakes will not be repeated and strives to leverage some good practices. Some informal workgroups have been established in the group under study to encourage cross sharing on learning from projects. Some contingent project managers who have demonstrated good performance and long-term relationships with IS-SP are also involved in such workgroups. Participants of IS-SP are not involved in formal mentoring or coaching programmes. Practically, IS-SP project managers may learn more from people at the customer sites rather than from those working on other IS-SP projects. However, being a contingent project manager at a customer’s site means that formal learning and knowledge sharing are unlikely to happen. For IS-PB, the nature of business is different from IS-SP. The group under study is IS-PB’s end-user IT department. The customers are all internal customers. The majority of the IT project staff work in one single venue but are distributed over a few floors. There are regular management meetings that involve the head of IT, senior IT managers, and permanent and direct contract project managers to report progress of various projects. These meetings are described as ‘formal’ and ‘factual’ oriented. Interactive sharing on problems or lessons learned are limited. The group has a formal PMO that plays a key role as the centre of project management knowledge. As a government IT group, it basically follows the OGCIO’s standard – PRINCE2 as the project management methodology for all IT projects. The project management processes and tools are made available on the organisation’s internal portal. All permanent and contingent project managers have access to the majority of the group’s project information, except sensitive data such as financial data. Formal training courses on the methodology are arranged periodically by the PMO to all IT project practitioners. On the people-to-people oriented learning, there is no formal mentoring or coaching programmes. Nevertheless, Participants C and D commented that informal knowledge sharing and people networking are more essential to be a successful project manager in IS-PB. Some of these practices align with Prencipe & Tell’s (2001) inter-project learning mechanisms - group level learning processes (see Section 3.4.5.2). The discussions on knowledge communities (see Section 3.4.6.3) and PMO (see Section 3.4.6.4) in Chapter 3 are also applicable to these pilot study organisations.

5.5.2. Contingent employment specific characteristics

Three participants mentioned that the way contingent IT professionals are treated has a lot to do with the culture of the group. Even within the same organisation, different groups may employ contingent workforce because of different reasons and thus manage them differently. Participant B believes that
staff under contingent employment may fall in within a spectrum where a contingent staff member’s treatment ranges from being comparable to that of a permanent-staff member to being temporary project managers. At one end (comparable to a permanent-staff member), contingent workers are treated with no obvious difference from permanent staff; at the other extreme, contingent workers are viewed as a cost spent to complete specific tasks and disposable upon task completion. He mentioned that he had worked in multiple organisations as a contingent IT project manager and had experienced the differences across the spectrum. If the group’s culture is closer to that of a temporary staff member, both the contingent project manager and hiring organisation aim at fulfilling the contractual obligation and do not consider a long-term relationship. At the other extreme, the group wants to maintain a good relationship with the contingent staff member and may potentially hire the staff member permanently. The tenure of the employment is related to this group culture. All pilot interview study participants agree that if the group offers long-tenure employment to contingent project managers (such as at least two years), it is more likely to have the participation of contingent project managers in group level knowledge management activities. In order to advance project management capabilities at the group level, the two case study groups emphasise the project management processes. IS-PB follows PRINCE2 and has set up necessary tools on its internal portal to facilitate project management. Similarly, in IS-SP, the group under study has adopted its corporate project management with localised processes. The methodology and tools are all available on the internal portal of IS-SP. In most aspects, the IT groups under study do not distinguish the way they treat contingent or permanent project practitioners. Contingent project managers are constrained only in some sensitive areas such as financial management, hiring and firing staff, and contractual issues. In both IT groups under study, they have built some bridges to manage these gaps. In the group of IS-SP, some permanent employees play the bridging role to take care of the organisational process requirements and represent contingent project managers internal liaison officers. Contractual matters of the projects are also handled by these permanent employees. In IS-PB, in the same token, contingent project managers are prohibited to access financial and contractual data; they will need permanent staff support. The findings identify some issues on utilising contingent employment as resource strategies on IT projects from both the employing organisations’ and contingent workers’ perspectives. These enrich the literature survey outcomes (see Table 3.2) about contingent employment and IT (see Section 3.2). Table 5.2 above summarises the group level’s similarities and contingent employment differences. The next section compares the organisational level similarities and differences.
5.6. **Organisational Level PM Capabilities Enhancement**

The responses regarding organisational level are summarised as follows in Table 5.3. Their similarities (see Section 5.6.1) and differences (see Section 5.6.2) are discussed in the next two sub-sections.

Table 5.3: Summary of phase 2 - pilot interview study findings at the organisational level

<table>
<thead>
<tr>
<th>Permanent and Contingent Employment Shared Characteristics</th>
<th>Contingent Employment Specific Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ IT is gaining a strategic position in organisations.</td>
<td>▪ The organisational HR policy may make</td>
</tr>
<tr>
<td>▪ The investment in organisational learning depends on</td>
<td>contingent employment explicit in</td>
</tr>
<tr>
<td>the how the organisation sees IT project management</td>
<td>organisations.</td>
</tr>
<tr>
<td>capabilities as a core competence or knowledge as</td>
<td>▪ Contingent workforce’ career advancement</td>
</tr>
<tr>
<td>intellectual capital.</td>
<td>within the hiring organisations depends on</td>
</tr>
<tr>
<td>▪ Hong Kong’s IT talent pool is small; IT project</td>
<td>organisational policies, but generally it is</td>
</tr>
<tr>
<td>management capabilities need investment from</td>
<td>more difficult to advance than if people</td>
</tr>
<tr>
<td>business owners.</td>
<td>were permanent staff members.</td>
</tr>
<tr>
<td>▪ IT labour industry is going to a less than ideal</td>
<td>▪ The investment on training and</td>
</tr>
<tr>
<td>direction in Hong Kong.</td>
<td>development of contingent workforce is</td>
</tr>
<tr>
<td>▪ More collaboration with the Mainland China IT</td>
<td>significantly less than that for permanent</td>
</tr>
<tr>
<td>industry is happening in both ways – Hong</td>
<td>staff.</td>
</tr>
<tr>
<td>Kong organisations outsource IT work to China,</td>
<td>▪ The contingent workforce is more aware of</td>
</tr>
<tr>
<td>and China exports IT resources to work in Hong</td>
<td>measurements such as utilisation that</td>
</tr>
<tr>
<td>Kong.</td>
<td>affect their employment renewals.</td>
</tr>
<tr>
<td></td>
<td>▪ Incentives are not provided to contingent</td>
</tr>
<tr>
<td></td>
<td>workers if they contribute to organisational</td>
</tr>
<tr>
<td></td>
<td>learning.</td>
</tr>
</tbody>
</table>

5.6.1. **Permanent and contingent employment shared characteristics**

Learning at the organisational level depends upon whether the corporation supports organisational learning or knowledge management. Previous research undertaken by the researcher of this thesis (Ng, 2008) on the organisational level facilitation of IT project management capabilities enhancement concludes that this depends on how the organisation sees IT project management capabilities—whether as a core competence of the organisation or if knowledge and information are perceived as capital that is worth investing in. In Hong Kong, IT is playing an increasingly important role in organisations (see Section 2.3.1). These pilot interview study organisations reveal that the ability to deliver high quality IT projects is crucial to the organisations’ success, not just to the success of the IT groups. One of the key organisational performance measures for IS-SP is the ability of the group
under study to deliver profitable projects. IS-SP has a major interest in investing in organisational learning in terms of IT project management capabilities and to retain acquired capabilities in-house. The group under study retains experienced project directors as permanent staff. They need to lead contingent project managers, contingent IT workers and outsource partners to deliver profitable and high-quality projects to external customers. For IS-PB, all key user departments within IS-PB have some mission critical IT projects under implementation. In summary, in these two pilot interview study organisations, IT plays an essential role. IT project management capabilities are considered as one of the core competences of these organisations. Nevertheless, the investment on advancing project management capabilities is essentially focused mainly on the processes (such as PRINCE2 in IS-PB and locally adapted corporate project management methodology in IS-SP) and tools. Both organisations prefer to employ experienced project managers who have the necessary skills and qualifications to fulfil specific project requirements. As with many other organisations, “[the] hiring managers […] have assumptions that the [contingent workers] are experts and should be able to perform” (Ng, 2008, p. 61). IS-SP, with its dynamic nature of the business, prefers to identify the project manager it wishes to appoint only when it plans to bid on a certain project, which normally has specifications concerning the project manager role. The Hong Kong government has frozen the headcount of civil servant hiring for IS-PB for over five years. This means that organisations such as IS-PB have to employ contingent project managers when permanent project managers are unavailable.

As described in the Chapter 2 literature survey outcome of this thesis, organisations are paying less attention on IT professional development partially due to the trend of outsourcing and contingent employment (Ma, 1999; VTC, 2006, 2008, 2010). The management participants (Participants A and C) have pointed out that the increasing contingent employment trend of Hong Kong’s IT labour market is not ideal. Hong Kong’s IT market is small with a small pool of IT professionals and an even smaller pool of project managers. When organisations are striving to hire effective IT project professionals and project managers, they tend to go to the same pool. Similar to any competencies, IT project management capabilities need investment. Participant A stated a belief that business owners of IT projects have the responsibility to develop IT project management capabilities. The Mainland China integration trend (see Section 2.3.4) identified from the literature survey, which has been observed in the two pilot interview study organisations. In IS-SP, multiple business units, including the group under study, have projects partially delivered by the Mainland China resources. It is expected to expand the percentage of project work to be delivered by the Mainland China resources in the coming years. In most cases, the Hong Kong side employs front-end staff such as project managers and systems analysts, and the Mainland China side provides back-end staff such as coding and testing resources. Both IS-SP and IS-PB have imported some Mainland China resources to work on-site at Hong Kong project venues. Most of these resources are hired as agency contingent resources. This kind of hiring does not include project manager level staff as they are mainly programmers. When this pilot interview study was conducted in late 2008, there was a global financial crisis. The poor
economic condition may lead to increasing demand to use the relative low cost Mainland China employees. In IS-SP, they were facing more intense price competition; therefore, decreasing cost was mandatory for survival. Not collaborating with the Mainland China’s IT industry (see Section 2.3.4) is not a choice. Project managers need to acquire the capabilities to manage cross culture and multi-location project implementation issues. The group under study in IS-SP has a specific workgroup to identify critical success factors on cross-border (Mainland China and Hong Kong) projects.

5.6.2. Contingent employment specific characteristics

At the group level, discussion above mentioned that the group culture affects the way that the contingent workforce is treated. This also applies at the organisational level. In some human resource matters, some organisations may have policies that make contingent workforce easily identifiable. They may have different job titles, name badges or name cards (or no name cards at all), a smaller office space or specific email accounts. In both IS-SP and IS-PB, these types of external differences are quite apparent. Regarding organisational human resource policies, the two pilot interview study organisations have policies that those people who perform well in the contingent workforce can be converted to permanent staff. In IS-SP, when permanent head counts are granted, permanent opportunities are normally given to existing contingent workers to become permanent employees. In IS-PB, as a government organisation, every position’s hiring has to go through a proper open and fair recruitment process. Realistically, there is no opening for civil servant (permanent) employment. Even if there were to be an opening, the existing contingent workers only would have minimal advantages over competitors without IS-PB’s organisational knowledge. According to participants of IS-PB, it is difficult to obtain a ‘promotion’ through this channel. Some successful cases have been the targeted staff who left IS-PB for some time to obtain an external advancement in job level prior to his or her returning to apply for the next job level in IS-PB. The participants of IS-PB have stated that it is an IT school that develops IT professionals for the community.

Practically, the four participants agree that the training and development budgets for contingent staff are significantly less than that for permanent staff. Members of the contingent workforce are hired because of their expertise and skills to meet the task requirement. In principle, no learning and development investment should be provided by the hiring organisations. The group under study in IS-PB has administratively worked around the system to allow contingent IT workers to sit in on training classes without specific limits on headcount. For IS-SP in this aspect, not much learning facilitation has been done for contingent workforce. However, in some long-term contingent workers’ cases, training or professional certification sponsorships are arranged on a case-by-case basis. The management participants (Participants A and C) of both organisations agree that it is not costly to sponsor contingent IT professionals on training or professional qualification programmes, it is a matter of organisational policies and measurements. Contingent workers are essentially measured by their utilisation. When they are hired, they are expected to be fully utilised on the assigned projects or
tasks. There is no time allocated for training and development. Moreover, contingent workers prefer to spend time on fulfilling the job requirements so as to increase the chance of employment renewals. This leads to the low incentive for contingent workers to contribute to knowledge-sharing activities. The weak sense of job security also hinders contingent workers to share their knowledge and experience. Practically, there is no reward or measurement to encourage such behaviours in the contingent workforce pools.

The findings identify additional issues in using contingent employment as resource strategies for learning and career advancement. These further enrich the outcomes from literature survey (see Table 3.2) about contingent employment and IT (see Section 3.2). Table 5.3 above summarises the organisational level’s similarities and differences on contingent employment.

5.7. Pilot Interview Study Conclusions

The above findings at the individual, group and organisational level learning levels indicate there are challenges at all three levels. In the context of contingent employment, the findings indicate the employment arrangements (permanent or contingent) impose a different set of issues and opportunities in enhancing IT project management capabilities. With the recent financial crisis, more IT staff members have involuntarily fallen into contingent employment. The economic recovery may help to improve employment prospects for IT workforce in general but not necessarily for permanent employment (see Section 2.2.2). The financial pressure together with the increase in knowledge complexity of the IT industry and the organisations’ intense dependence on IT for strategic competitiveness further drive CIOs to seek cost effective solutions. However, solutions such as contingent employment impose new questions. The groups under study have provided temporary workarounds to fix some contingent employment problems. However, it is unsure whether these are long-term solutions. At the organisational level, the global economic condition not only drives organisations to be more cost conscious but also motivates management to look for IT solutions to drive operational efficiency, manage risks or improve competitiveness. From the findings of this pilot interview study, the organisations have invested in retaining knowledge of permanent staff and maintaining their IT project management methodologies. There is little evidence that they have policies to help non-permanent staff in terms of learning. However, at least two participants perceive that contingent staff’s hiring organisations should do more for the good of the whole industry.

“The number of project managers in the workforce [in Hong Kong] is small and this is the only available pool of talents. They either work for organisation X or organisation Y [...] Any programme to help contingent project managers is for the whole IT project manager pool in the labour market” Participant A.
In summary, the key findings from this pilot interview study are as follows:

1. There is an increasing need for project managers in the Hong Kong IT market;
2. There is an entrenched trend toward project management contingent employment;
3. Contingent employment presents advantages and challenges. Advantages can be realised from introducing a greater diversity of skills into an organisation and scale of ability. However, this provides a challenge for organisations, IT groups and contingent employees facilitate their learning and knowledge transfer among individuals, groups and organisations through developing policies, protocols and methodologies;
4. It is unclear whether or not contingent project practitioners are indeed adopting lessons learned from organisations in the form of processes or organisational ‘common knowledge’ as well as contributing to the success of these organisations to absorb contingent IT professionals’ knowledge; and
5. There is a general malaise in upgrading vital project management skills. Organisations do not invest in doing so, and individual contingent IT professionals (including project managers) do not commit to sufficient self-directed approach to enhancing their skills. This leads to ‘harvesting’ rather than ‘nurturing’ knowledge skills and experience, and therefore, this systemic problem leads to failure to create and build a larger and more stable pool of skilled project practitioners to meet the anticipated increased demand for highly skilled project managers.

5.8. Chapter Summary

The purpose of the Phase 2 – pilot interview study has been to identify findings that are utilised to refine this research’s design and case study questions. The outcomes and conclusions provide inputs to the case studies of this thesis to further explore the areas in relation to IT project management advancement in the contingent employment context. The next three chapters are going to present the outcomes of the three case studies.
Chapter 6 - Case Study One Analysis

6.1. Introduction

The purpose of this chapter is to present the case study analysis of the first case study organisation. The organisation is a statutory authority serving the Hong Kong general public and is a quasi-government organisation. In this thesis, it is referred to as C1-PB. It is a typical Hong Kong IT users organisation (VTC, 2010) that employs a relative high percentage of contingent IT workers. When this case study’s interviews were conducted in late 2009, it employed about 8,000 employees (excluding contingent workers), of which about 170 of them were civil servant or direct contract IT staff under the IT group. In addition, there were approximately 200 short-term oriented contingent IT staff who were hired through human resources agencies on body-shop contracts, working in this IT group to serve C1-PB. This number varies according to the demand at any point of time. In general, 50% of the IT workforce of C1-PB is employed under body-shop contract as contingent workers.

Management representatives of the IT group of C1-PB agreed to participate in this case study. Three of the seven senior IT managers of C1-PB participated in this case study in turn introduced three other IT colleagues (one project manager, one senior systems analyst and one systems analyst) to support this research. In addition, a list of triangulation documents (see Appendix C1) was reviewed. The findings presented below are according to the analysis outcome from the input of six participants from C1-PB and the documents listed in Appendix C1. The six participants are referred to as Participant C1.A, Participant C1.B, Participant C1.C, Participant C1.D, Participant C1.E and Participant C1.F.

6.1.1. The case study report

This case study report contains of eight sections, and the structure follows the common eight section case study report structure (see Section 4.4.1). Section 6.1 introduces the case study organisation and the participants. Section 6.2 details the contingent employment policies and practices. Section 6.3 investigates the reasons behind the importance of IT project management in C1-PB. Section 6.4 is about the positive and negative impacts of contingent employments from the organisational and individual contingent IT worker perspectives. The next section, Section 6.5, reveals the organisational learning model that supports C1-PB to advance its project management capability and achieve project organisational success. Section 6.6 analyses how C1-PB capitalises its social capital. Section 6.7 is about learning beyond C1-PB’s boundary. Section 6.8 is the last section; it summarises the findings and insights developed from this case study. Figure 6.1 below lists the table of contents of this report and its structure for easy reference.
6.1.2. **The case study organisation**

This section introduces the background of the case study organisation and the major events that have impacts on its project management practices. The data source of this section comes from the reference list shown in Appendix C1 and the interview data supplied by the six participants of this case study. Due to the confidentiality agreement with the case study organisation that its identity remains anonymous in this research, the exact data source cannot be disclosed.

C1-PB has been established for over three decades in Hong Kong with the vision to help low income families. It develops and implements programmes, which seek to achieve the HKSAR Government’s policy objective in the relevant area. The scope of services increases over time, and the proportion of Hong Kong population that it serves also grow. Today, approximately 30% of the Hong Kong population are using C1-PB’s services. The corporate mission has been to provide high quality services to customers in a proactive and caring manner ensuring cost-effective and rational use of public resources in service delivery; and maintaining a competent, dedicated and performance-oriented team. In order to achieve its mission, C1-PB establishes its corporate plan. In the 2009 corporate plan, two of the eight key strategic objectives were closely related to IT. They were:

- To make the fullest use of human and financial resources and information technology to meet corporate goals; and
- To be innovative in enhancing operational efficiency.
In order to support the HKSAR Government policy and achieve C1-PB’s strategic objectives, a number of standing committees led by chairpersons are formed under C1-PB to formulate, administer and oversee policies in specific areas. In addition, C1-PB has an executive arm led by a director to develop and implement its programmes. The executive arm has four divisions and two functional units led by deputy directors and report to the director. Two of the divisions are organised according to the types of service delivered to the general public, the other two divisions are the Strategic Division and Corporate Services Division. The IT group under study in this research is one of the subdivisions reporting to the Corporate Services Division and is responsible for the corporate IT activities, services, policies, regulations, plans and strategy of C1-PB. It has been organised to align with the operation of C1-PB. In 2009, it had seven senior IT managers (SITMs) led by the head of IT. Each senior IT manager owned an IT team. Three of the seven IT teams were vertically aligned to the business functions. They looked after account(s), which were grouped by business function(s). The fourth team was assigned to run a multi-year, mega-size out-sourced project with users across multiple business functions. The other three teams provided cross-business-function IT services and were responsible for application development services, IT operation and infrastructure services and the overall IT managed services including the project management office role. Figure 6.2 above is an illustration of C1-PB’s high-level organisational structure.
The IT group experienced growing demands in the last decade. The demand has led to human resource shortage issue. In 2008, one high risk item was tabled on C1-PB’s Corporate Services Risk Management Plan (refer to Appendix C1 for source); it was the “inadequacies in IT human resources including high staff turnover rate, high ratio of temporary staff employed through body-shopping and difficulty in retaining and recruiting experienced IT professionals”. Utilising contingent IT staff has been one of the key human resources strategies employed by C1-PB to meet the demand for IT services since early 2000s. All the six participants of this case study agree that it is appropriate to utilise a contingent employment strategy in C1-PB’s situation. However, four of the six participants commented on the high proportion of contingent workers in the IT group. They see that there is a need for a ‘balance’. C1-PB’s percentage of contingent IT employment (50%) is in general considered to be on the high side by the case study participants. This risk item in the 2008 risk management plan was still a concern when the case study interviews were conducted.

“In our organisation, IT group has over 50% of staff employed in contingent [body-shop contract] term. There are definite impacts on the project execution [...] As for up to what extent or portion [of contingent employment] is right, it is a matter that should be discussed” Participant C1.C.

“[…] this world needs a balance. We cannot have zero contingent workers. However, the portion should not be too overwhelming [...] There is need to have a bit more permanent workers” Participant C1.D.

6.1.3. The case study participants

Six participants were interviewed in total. All participants are actively involved in IT project management activities in their day-to-day work. Three participants – Participants C1.A, C1.B and C1.C -- hold managerial roles in C1-PB and are the senior IT senior managers of C1-PB’s IT group leading IT teams to provide the overall IT managed services including the PMO role, account management services and application development services respectively. These management participants mainly provided the IT group and organisational level views in this case study and were all under direct contract employment by the time the research interviews were conducted. According to the definition of contingent employment of this thesis (refer to Section 3.3), direct contract employment of C1-PB is also a form of contingent employment as such employees will not stay with C1-PB for an indefinite period of time (Redpath et al., 2007). However, all three participants, C1.A, C1.B and C1.C, considered it was a form of employment for long-term purposes; direct contract employees were counted as in-house staff, not contingent workers in C1-PB. Therefore, they did not assume their representation of the contingent IT workers’ view. The other three participants – C1-PB Participants C1.D, C1.E and C1.F -- were associated with an IT project manager role or delivering some IT project management tasks. The employment of one of these three participants had just been converted from a service contract arrangement to a direct contract arrangement when the research
The interview was conducted, and the other two participants had been employed on a T-contract (a form of body-shopping contract) arrangement for three years to five years. A T-contract is the OGCIO coordinated IT contingent staff services through ‘body-shopping’ contracts to serve government bureaux and departments. C1-PB also utilises the T-contract to employ the majority of its contingent IT workers. These people were selected because they had direct relevant experience and perspectives to offer.

The demographics of the six participants of case study one are summarised in Table 6.1 below. Their duration of services in the current role ranged from one month to seven and a half years, with the average of three years and seven months. They had worked in C1-PB from three years to seven and a half years, with the average of five years and nine months. Among the six participants, Participant C1.F had the shortest contingent employment record; it was only three years. Participants C1.B, C1.C and C1.D each had over ten years of contingent employment (including direct contract) records. Participants C1.B, C1.C, C1.D and C1.E had at least 50% of their IT working experiences under contingent employment (including direct contract). Their average contingent employment experience was 9.75 years if including direct contract employment and three and a half years if excluding direct contract employment. From another perspective, Participants C1.A, C1.B and C1.C only had direct contract experience; the average years of direct contract employment for these three participants was 12.5 years. Participants C1.D, C1.E and C1.F only had body-shopping contingent employment experience (except Participant C1.D who had one month direct contract record at the time when the case study interview was conducted). The average years of contingent employment of these three participants was seven years. Regarding years of working experience in the IT sector, four of the six participants had over 20 years of IT working experience; the remaining two participants had nine years and twelve years IT working experience respectively. The average was 19.8 years. Four of the six participants began their career in the IT field, while the other two came from the engineering and accounting fields. Those who began with the IT field had basically gone through some programming work, application development projects or having systems analysts roles before moving into project management or IT management roles. One of the participants had IT operation experience, and all of them had participated or led some large, multi-year IT projects in their work history. Four of the six participants had some IT vendor working experience prior joining C1-PB. Regarding the educational background of the participants, all of them have higher diplomas or above the educational level, and one of them has acquired formal project management credential as a PMP® from the PMI. All participants had gone through some form of in-house project management training provided by their current or former employers.
Table 6.1: Demographic summary of case study one participants

<table>
<thead>
<tr>
<th>Number of Participants</th>
<th>Six</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current roles in C1-PB</td>
<td>Three senior IT managers (direct contract), One project manager (direct contract), One senior systems analyst (body-shopping T-contract), One systems analyst (body-shopping T-contract)</td>
</tr>
<tr>
<td>Years of services in current position</td>
<td>One month to 7.5 years (average: 3.7 years)</td>
</tr>
<tr>
<td>Years of services in C1-PB</td>
<td>Three years to 7.5 years (average: 5.9 years)</td>
</tr>
<tr>
<td>Average number of years worked on contingent employment terms (including direct contract)</td>
<td>9.75 years</td>
</tr>
<tr>
<td>Average number of years worked on contingent employment terms (excluding direct contract)</td>
<td>3.5 years</td>
</tr>
<tr>
<td>Years of IT industry experience</td>
<td>Nine years to 30 years (average: 19.8 years)</td>
</tr>
<tr>
<td>Highest education level</td>
<td>Two master of philosophies, Two post graduates, One under graduate, One higher diploma</td>
</tr>
<tr>
<td>Formal project management qualification</td>
<td>One PMP® (from PMI)</td>
</tr>
</tbody>
</table>

### 6.2. Contingent Employment Policies and Practices

#### 6.2.1. The changing human resources strategies

Being a quasi-government organisation, C1-PB basically employed civil servants to deliver its services from its establishment in the early 1970s to late 1980s. The concept of employing contract staff was first introduced in late 1980s. Direct contract staff members were employed to fill civil service posts when no suitable civil servants were available, or when the requirement was of a temporary nature, and to fill C1-PB posts when the expertise required was not available in the civil service. A decade later, from late 1990s, C1-PB adopted a human resources policy of wider employment of its own staff (direct contract staff) to include recruitment of all grades (refer to Appendix C1 for source). This was the first major human resources strategy restructuring. This policy aimed at increasing flexibility in staff employment and deployment, thus enabling C1-PB to respond to changing staffing requirements more quickly and to control its resource level more effectively. Since the implementation of this policy, direct contract staff members were engaged widely in all grades. C1-PB also implemented a phasing-out programme for civil servants with some resultant vacancies converted to posts filled by direct contract employees. The phasing-out programme was
also applicable to IT grades. This policy was aligned with the downsizing and divestment initiatives between the late 1990s to mid-2000s. It was, according to the HKSAR Government and C1-PB’s strategy, to build a leaner and more efficient organisation. The number of civil servants had been reduced in terms of thousands and was stabilised by 2007. There had been almost no new civil service posts established in that period. This was also the period that the number of direct contract staff increased steadily. By mid-2007, the ratio of the number of civil servants to that of C1-PB direct contract employees was about 90% to 10%. This ratio remains basically the same since that time.

In 2007, there was a study on the long-term personnel strategy of C1-PB (refer to Appendix C1 for the specific source). It decided to adopt a rationalised mixed mode as the long-term manpower strategy; to phase out direct contract staff working in those grades recommended to be staffed by civil servants through natural attrition; and to continue to engage other modes of obtaining human resources to cater for specific operational needs and to supplement in-house resources. These modes included engaging services from the private sector through outsourcing and procurement of body-shopped services as appropriate and to conduct a separate review on whether regular employment for C1-PB staff should be introduced. From 2009, about 3.5% additional civil service positions were established in two years. However, there was no net effect on the overall numbers of people employed in C1-PB as the same number of C1-PB direct contract positions were deleted to offset the creation of corresponding civil service positions. At the same time, C1-PB endorsed the introduction of regular employment to enhance the sense of belonging of the remaining direct contract staff and started offering regular employment to them since early 2010. The performance-based salary progression mechanism was also implemented from the 2010 annual salary adjustment exercise for the C1-PB direct contract staff to motivate them to achieve better performance. This is the second major human resources strategy restructuring of C1-PB.

6.2.2. Contingent employment as IT resource strategy

In the latest human resources strategy, in addition to in-house staff (including civil servants, regular employment staff and direct contract staff), C1-PB continues to deploy private sector resources to provide services for C1-PB through outsourcing and body-shopping where private service providers are considered more effective and economical or when the expertise required is not available in-house. Therefore, in addition to these three categories of in-house staff, there are four other categories of IT staff working in the IT group of C1-PB. They are the T-contract staff, ‘skill bulk’ staff, staff delivering service work (as a service contract), and outsourcing project staff. T-contract is the OGCIO coordinated IT contract staff services through ‘body-shopping’ contract. The ‘skill bulk’ contract is of similar nature but is administered by C1-PB instead of the OGCIO. Service contracts can also be a way for some IT service providers to supply resources to C1-PB to deliver specific services or products through assigning their staff to work at the C1-PB premises. Moreover, a portion of IT work is outsourced to IT vendors or service providers through tenders, standing contracts or other
procurement forms. Staff from the IT vendors or service providers may work on-site at C1-PB premises or off-site at the vendors’ sites.

From the definition of ‘contingent employment’ (see Section 3.3.1), other than the civil servants and regular employment staff, the other five categories of staff (including direct contract staff) fall in the contingent employment category as there are certain forms of contracts that the staff stay with C1-PB for an indefinite period of time. However, four of the participants were under direct contract employment by the time this research was conducted, three of them (Participants C1.A, C1.B and C1.C) said direct contract employment was long-term in nature and should not be considered as contingent. According to Participant C1.A in a follow up interview, “by early 2011, over 95% of the existing direct contract staff have been converted to the new [regular] employment term”. From the above arguments, this case study’s data analysis takes the ‘direct contract staff’ counted as non-contingent workers. Those IT workers who work on-site at C1-PB premises, but come from service contract or outsourced projects, are also not counted as contingent IT workers in this case study because their duties are to deliver services or products instead of being counted as human resources of C1-PB. By this definition, C1-PB’s contingent IT workers were around 200 in late 2009; they made up about 50% of C1-PB’s total IT workforce. They were all on body-shopping contracts (that is either on T-contract or ‘skill bulk’ contract arrangement) employed by human resources agencies. Among this group of workers, the majority of them were local Hong Kong IT professionals, while a minority of them came from the Mainland China.

As part of the HKSAR Government strategy, there is a preference to employ contingent workers through human resources agencies instead of direct hire. The OGCIO sees, by working through a ‘body-shopping’ contract such as the T-contracts, “bureaux and departments can obtain IT staff services from a list of contractors within a short period of time [and] the arrangement of T-contracts allows bureaux and departments to enjoy maximum flexibility in addition to quick response to IT staff services requirement” (OGCIO, 2011c, p. 1). The latest T-contract administered by the OGCIO of Hong Kong is the T22 contract, which is a three-year T-contract beginning from 1 August, 2009. Eleven human resources agencies are pre-qualified to supply contingent IT workers to various government bureaux and departments including C1-PB. On top of these 11 agencies, C1-PB has also pre-qualified one to two human resources agencies to provide contingent IT resources under the ‘skill bulk’ contract. These agencies’ major tasks are serving the employing organisations such as advertising vacancy advertisements, collecting resumes from the market, checking which government organisations are looking for people and sending the resumes to the organisations. For the contingent worker side, they serve as the legal employers of contingent workers who are seconded to employing organisations such as C1-PB, and the key functions are to find contingent workers jobs and provide human resources services such as payroll services and paying the Mandatory Provident Fund (MPF).
The practice of utilising human resources agencies to house contingent IT workers has been in place for over five years in C1-PB.

C1-PB has a tight headcount management on the mix of in-house staff (that is the combination of civil servants, regular employment staff and direct contract staff). The IT headcount for in-house staff is just enough for IT’s managed services, support and maintenance services, and administrative work of C1-PB. When a new IT initiative is raised, the number of in-house staff assigned on it is limited, but funding will be granted for hiring additional people to fulfill the demand. Summarising the inputs from the three management participants (Participants C1.A, C1.B and C1.C), there are two key resource strategies used to deliver new IT projects or initiatives. Firstly, if it is an in-house project, the strategy is mixing in-house staff with external contingent IT workers in-sourced via body-shopping contracts. Existing in-house staff members on support and maintenance work are swapped out to join the new project; contingent IT workers are hired to back fill these positions and to open positions for the new project. Secondly, if it is a totally outsourced project, resources are needed to manage the vendor selection, and the project is delivered by the vendor. The resource strategy is similar to an in-house project. Existing staff are mixed with newly hired contingent IT workers to form a new team to work with the selected IT vendor to deliver the project, and some contingent new hires back fill the existing staff’s previous positions.

New initiatives are always linked with new funding for new contingent workers and vendor services. When the new initiatives are complete, contingent workers as the temporary replacements of in-house staff or resources of the new initiatives are dismissed or reassigned to some later IT projects. Utilising contingent resources strategy is also a means to fill the skill gap of in-house staff.

“If the workers have no experience on those [specific] platforms or tools, it is very difficult to perform well. IT technology and tools change too fast. For commencing new projects, we may need to build a new team to use new tools; we cannot just depend on the existing core team as they may not have the required technical skills or knowledge” Participant C1.B.

When a contingent worker joins a C1-PB IT project there are three possible roles that he or she may play according to the two resource strategies stated above. He or she may firstly be assigned to a new project utilising the latest technologies; secondly, be a replacement of an in-house staff to take up support and maintenance work of an existing system; or thirdly be responsible to guide a vendor team to deliver a project.

The six participants have expressed their viewpoints of utilising contingent employment as IT resource strategy of C1-PB. They are analysed and presented in Section 6.4 below.
6.3. Importance of IT Project Management Capabilities

With the HKSAR Government enforcing the e-Government strategy (Digital21, 2008), and the internal driving force to build a leaner and more efficient organisation, a decade ago, the management of C1-PB has mapped out the long-term information strategy to make greater use of IT in the 2000s. A series of priority IT projects was planned and implemented to replace old systems and facilitate new business initiatives. Security policies and standards for high-risk items were implemented to strengthen the IT governance and security. Moreover, to support the introduction of new business applications, enhance productivity and efficiency of C1-PB and match the rollout of e-Government initiatives, the capacity of C1-PB’s computer network and infrastructure was expanded; a common IT architecture was also implemented in accordance with the Government’s inter-operability technology framework. According to the 2009 reports (refer to Appendix C1) from the chairpersons of the committees, C1-PB has entered into the web-based information processing technology era after completing the replacement of all legacy mainframe applications. The IT group has been playing more important roles, and business users are becoming more IT literate.

“The organisational users learn more about IT and how it helps. Now, there are higher and higher expectations on IT. With better knowledge of what the technology can do, organisational users have higher acceptance of technology. They may ask something that they might not have even thought about it before” Participant C1.A.

Success and failure of IT projects have a significant impact on C1-PB’s operation efficiency when it goes for a lean organisational structure while fulfilling its obligations to execute public policies and complying with the e-Government strategy. C1-PB has dealt with its IT projects seriously. Major IT projects in C1-PB have been multi-year, multi-million-USD projects. Some of these mega projects are totally outsourced, and some are kept as in-house projects. When the IT project has an impact on broad based initiatives and has led to changes across business functions, the IT group may set up a special mega project team to own the project implementation. By the time the participants of this case study were interviewed, C1-PB had one such team focus on one mega project (see Figure 6.2). This practice suggests that C1-PB is serious about its IT projects and has a heavy investment in new IT initiatives.

In 2008, C1-PB was granted the CMMI – Maturity Level 3 accreditation (SEI, 2006), and it is among the first few public organisations in Hong Kong to receive the accreditation. On the press release of this achievement, it said, “Application of the CMMI in the [C1-PB] software management process will enable improved planning of software projects and budget forecasts, an increase in productivity, and improved quality and customer satisfaction”. Participant C1.E sees the C1-PB’s investment of the CMMI clearly demonstrated that it is serious about project management and is an organisation that is worthwhile to remain with it for the long term. Participant C1.C sees with the implementation of the
CMMI mandate the PMO requires a special audit team to regularly audit the projects that have brought C1-PB’s project management practice to a new level beyond the previous PRINCE2 methodology. This has been the traditional standard and guideline for all government projects. The CMMI demands IT projects to be audited by the PMO, brings the transparency of IT projects to the organisational level and thus leads to improvements on the project success rate.

“With the implementation of the CMMI, the transparency of project activities increases. A third party (PMO) provides comments on projects and early warning on risks such that preventive actions or rectifications can be taken earlier [...] This helps the senior IT managers to monitor the work of their [project managers]” Participant C1.C.

In C1-PB, the individual IT professionals, especially those to-be-project-managers, see it is important to build up project management skills and experience to gradually move on to the IT project manager role. Participants C1.E and C1.F believe that they have opportunities to learn project management in C1-PB through the CMMI process training; accessing the CMMI intranet portal that post CMMI processes, guidelines and templates, and sharable project documents of C1-PB IT projects; following the CMMI processes on projects; and having on-the-job, hands-on practices of certain project management tasks. Both participants appreciate their supervisors giving them opportunities to expand their job scope to some project management tasks.

C1-PB has IT project teams ranging from small teams of a few team members to mega project teams of over 100 team members (including project sponsors, key users, management and IT professionals). The IT group has over 300 IT workers (including in-house and contingent workers) and many more outsourced IT workers running over 10 projects concurrently at C1-PB. The IT budget is a significant amount that needs to be carefully managed. C1-PB chooses to invest on project management processes (CMMI) and its implementation (through the PMO audit) as ways to improve project management capabilities and hence the success rate of IT projects. Participant C1.A and Participant C1.C see this is the solution under the contingency employment strategy.

“With the [CMMI] process in place, we are not afraid of people turnover. Everybody can pick up the CMMI process and get to know what to do in their roles” Participant C1.A.

“Such [CMMI process] framework has been very helpful. We have a large group of people come and go; different people have different background and practices. With such framework in place, everybody’s work should at least up to certain standard. This makes our deliverables consistent” Participant C1.C.
Serious project management implementation is seen as a solution to manage the impacts brought about from the contingent employment strategy in C1-PB. The next section is going to present the impacts of contingent employment to C1-PB and the contingent workers from organisational and individual perspectives.

6.4. The Impacts of Contingent Employment

6.4.1. Positive impacts from the organisation’s perspective

From the literature survey outcomes on contingent employment, there are seven positive impacts (or benefits) that attract organisations to hire contingent technical workers in the new economy (see Section 3.3.2.1). They are ‘Cost’, ‘Flexibility’, ‘Acquiring skills’, ‘Flow of knowledge’, ‘Budgets and headcount’, ‘Screening’ and ‘Unfilled positions and undesirable work’. Upon analysing the inputs from the six participants of C1-PB, the positive impacts of employing contingent IT workers basically fall in the same categories. There is only one additional item. It is ‘Achieving business result’.

The first benefit that all the six participants agreed is ‘Flexibility’. Contingent employment provides both numerical and functional flexibility. Five of the six participants (Participants C1.B, C1.C, C1.D, C1.E and C1.F) have mentioned the numerical flexibility of hiring and firing to meet the dynamic demands of the IT workforce as an organisational benefit. Organisation can terminate the contracts of contingent workers when the specific tasks have finished; there is no long-term commitment. Moreover, some skills required by new IT initiatives of C1-PB are not available in-house and need to bring in externally through contingent employment. Four participants (Participants C1.A, C1.B, C1.C and C1.F) of this case study have mentioned the functional flexibility benefit of contingent employment. It brings in diversity of resources, external experiences, new ideas and outsider views. The second most mentioned benefit is ‘Acquiring skills’. It was mentioned by four participants (Participants C1.A, C1.B, C1.C and C1.F). The IT sector is characterised by fast changing technologies. New IT projects often require new skills that are unlikely to be always available in-house. C1-PB acquires such skills through contingent employment. Participant C1.B says “In order to build up the project team quickly, we get the right skills from outside. Workers with knowledge of latest technology and tools will be engaged on new projects”. The third benefit is ‘Flow of knowledge’ that includes both public knowledge inflow and private knowledge outflow (Matusik & Hill, 1998). Three participants (Participants C1.A, C1.B and C1.C) share this view. In any new IT project, contingent workers bring in the knowledge and skills required by C1-PB; existing in-house IT staff brings the business knowledge, processes and culture of C1-PB. They learn from one another. C1-PB has the benefits of having the best of both worlds (mentioned by Participants C1.A and C1.B) to mitigate the project risks of lacking technical skills and business domain knowledge. Furthermore, some contingent workers assume the maintenance and support roles of in-house staff members that are swapped out to join new IT projects. This approach enables more people to obtain knowledge of
the old systems (mentioned by Participant C1.B). This provides contingency or backups to legacy system support projects. From another perspective, the three management participants (Participants C1.A, C1.B and C1.C) see that contingent workers leaving the organisation are unlikely to leak valuable business knowledge to the outside world as C1-PB is a public organisation and does not have direct competitors that need such trade secrets. However, as contingent workers learn the project management processes and methodology of C1-PB through participating on IT projects and bring such knowledge to the external world, they see there are no adverse consequences in doing so. Participant C1.A even said, “[i]f such standards are taken to other organisations and applied, it is not too bad. IT sector should share good practices. Actually, we release a lot of information to vendors. Therefore, our process and standard requirements are well known in the whole IT sector in Hong Kong”. Therefore, the flow of knowledge in and out of C1-PB is considered to be good and renders little or no harm to the organisation. The fourth positive impact is ‘Achieving business results’. This is the consensus of the three management participants (Participants C1.A, C1.B and C1.C). They see the contingent employment strategy as essential to achieve business objectives in C1-PB that has tight control on in-house headcount, and the skills required may not be available in-house. Participant C1.C provided a good summary on this point.

“If an organisation cannot have permanent establishment, it cannot fulfill the business needs, while people out there cannot find a job, it will be a lose-lose-lose situation. From this angle [...] the industry survives; the organisation achieves business objective; and individuals have jobs” Participant C1.C.

The fifth positive impact is on resolving the ‘Budgets and headcount’ constraints. It has been expressed by two participants (Participant C1.C and C1.D). This is similar to the fourth positive impact – ‘Achieving business results’. Organisations always have a headcount ceiling, and C1-PB has stringent control on its in-house staff headcount. It is part of the resource strategy of C1-PB that whenever a new IT initiative begins, the number of in-house staff assigned on it is limited, but budget will be granted to hire contingent workers to fulfill the demand to overcome the in-house headcount constraint. The sixth benefit is ‘Cost’. Two participants have mentioned this point. Participants C1.A and C1.F see contingent employment saves money of the employing organisation. In particular, Participant C1.A sees that “Contingent workers’ overhead is less than that of permanent workers. From a long-term perspective, the delivery cost is reduced, the cost per productivity is lower and the return is higher. This is a major benefit of the [contingent employment] strategy”. The seventh benefit is on ‘Screening’ potential in-house staff. Although C1-PB has limited openings for in-house staff, there are still new openings when some in-house staff resign from C1-PB, or additional headcount is granted. Contingent workers with good performance and track records in C1-PB are likely to have greater opportunities in the open recruitment process. Participant C1.D is a good example. She has demonstrated her capabilities in the project manager role for almost six years through a service
contract before she was employed as a direct contract project manager of C1-PB. She says “Although I just came on board to this new job, I am not new to this organisation”. C1-PB has therefore employed a proven in-house staff through its contingent employment strategy. The eighth benefit is having resources on ‘Unfilled positions and undesirable work’. There are some projects that in-house staff do not prefer to do or perform in ways beyond their usual practices. Participant C1.D quoted an example that C1-PB contingently employed a small team including herself as the project manager from an IT vendor to lead an in-house development project. Two project managers had left in the middle of the project before this small team was on board. This small team brought in certain IT vendor practices, and she found that “the existing team members did not fully accept my new way of doing things [...] Fortunately, there are contingent staff that have not joined the organisation for a long time. It gave me a chance to model them in a way I wanted it to be”. In this case, C1-PB successfully handled a difficult position, brought in new practices, drove changes on the project and made it a success. Table 6.2 below summarises the above positive impacts of contingent employment from an organisation perspective. The figures within the brackets are the numbers of participants who have expressed viewpoints on the specific impacts.

Table 6.2: Positive impacts of contingent employment from the organisation’s perspective

<table>
<thead>
<tr>
<th>Positive Impacts</th>
<th>Organisation perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Flexibility (6),</td>
</tr>
<tr>
<td></td>
<td>2. Acquiring skills (4),</td>
</tr>
<tr>
<td></td>
<td>3. Flow of knowledge (3),</td>
</tr>
<tr>
<td></td>
<td>4. Achieving business results (3),</td>
</tr>
<tr>
<td></td>
<td>5. Budgets and headcount (2),</td>
</tr>
<tr>
<td></td>
<td>6. Cost (2),</td>
</tr>
<tr>
<td></td>
<td>7. Screening (1),</td>
</tr>
<tr>
<td></td>
<td>8. Unfilled position and undesirable work (1).</td>
</tr>
</tbody>
</table>

6.4.2. Positive impacts from the contingent worker perspective

The employing organisation is not the only beneficiary of contingent employment. Individual contingent workers also benefited. In the literature survey in Section 3.3.2.2, the four advantages of contingent employment to contingent workers are ‘Career and personal development’, ‘Flexibility and autonomy’, ‘Higher wages’, and ‘Add knowledge and value to curriculum vitae (CV)’. In the case study of C1-PB, the outcome is similar to that of the literature survey except in the aspect of ‘Flexibility and autonomy’, which has not been mentioned by the participants in this case study. Two additional positive impacts brought up are ‘Manageable workload’ and ‘Stability and predictability’.
The first positive impact mentioned most by participants is ‘Higher wages’. Contingent IT workers in C1-PB are mainly hired through a body-shopping contract (that is T-contract or ‘skill bulk’ contract) that contains little benefits; the majority of the package is cash. It is attractive to individuals (mentioned by Participants C1.C, C1.D and C1.F) including some workers who used to have permanent jobs such as Participant C1.F. In times when the job market is slow, or the Hong Kong economy is poor, a contingent IT position at C1-PB with its cash-based package attracts IT professionals to join (mentioned by Participants C1.B, C1.C, C1.D and C1.E). The latter situation is the case of Participant C1.E. He lost his permanent job at the dot com explosion in the early 2000s. The second positive impact to individual contingent IT workers is ‘Career and personal development’. The IT sector demands continuous learning by nature as technologies keep changing in a fast pace. By policy, contingent IT workers are not eligible for training investments of C1-PB. However, Participants C1.A and C1.C say the IT group management tries hard to provide the greatest flexibility on training to contingent IT workers. They allow these workers to participate in non-headcount oriented training classes or ask in-house staff to transfer learning from paid training programmes to contingent IT workers. Individual participants (Participants C1.E and C1.F) admit that C1-PB has given them opportunities to attend such training. However, they appreciate more the chances that their supervisors allow them to enhance their capabilities, expand their job scope and assume tasks beyond their job levels. Participant C1.C sees contingent workers gain extensive knowledge and experience on-the-job. Individual participants - Participants C1.E and C1.F -- support this comment. Participant C1.E has remained at C1-PB as it is serious on project management such as enforcement of the CMMI processes by the PMO; Participant C1.F enjoys the hands-on opportunities of the latest tools and technologies and the learning he gains from the central Technical Architect (TA) team that shares technical knowledge across projects. As individual contingent workers gain more knowledge, they look for career advancement. According to Participants C1.D and C1.F, relative to in-house staff, contingent IT workers can easily gain a job title promotion. Comparing to in-house IT jobs, C1-PB is more flexible about contingent workers’ job titles, and promotions are independent of job openings or headcount as long as there is budget (mentioned by Participants C1.D and C1.F). The third positive impact is ‘Staying marketable’. This is similar to the benefit of ‘Adding knowledge and value to CV’ mentioned in the literature survey chapter (see Section 3.3.2). It is closely linked with the second positive impact. Having a marketable CV is about the survival of contingent IT workers. Participant C1.E’s quote below summarises this theme expressed by other participants (Participants C1.A, C1.B and C1.F). The technological and project management experience learned at C1-PB are seen as the most marketable elements they gained and can put on their CVs.

“The [...] factor that attracts me to stay a long time in this organisation is because the technologies and tools used here are pretty advanced [...] In terms of seriousness in running IT projects, this IT shop is quite stringent. It is value-added to work here, and this is how I retain my marketability” Participant C1.E.
The fourth positive impact mentioned by participants is ‘Manageable workload’. C1-PB is a quasi-government organisation. Unlike other commercial employers, C1-PB does not have the tense competition from the market although it has the pressure to fulfill its commitments to the public policies or other committed IT initiatives. Participants C1.C, C1.D, C1.E and C1.F see the workload of IT workers can be estimated and managed, the work pressure is relative lower than the commercial world and the time and cost pressure is lighter compared to that of IT vendor workers. Contingent IT workers further enjoy the benefit of having less paperwork as compared to the in-house staff. Last but not least, the fifth positive impact is ‘Stability and predictability’. This is an interesting benefit brought up by Participants C1.C, C1.D, C1.E and C1.F. In most studies on contingent employment, one of the key disadvantages of contingent employment to the individual workers is job insecurity and instability (Allan & Sienko, 1998; Gregory, 2001; Peel & Inkson, 2004; Redpath et al., 2007; Webster, 2005) (see Section 3.3.3.2). However, both Participants C1.E and C1.F see that a permanent job is not equivalent to a stable job, and a contingent job may not be unstable. Participant C1.E says, “T-contract job here may be more stable than some permanent jobs outside”; and Participant C1.F also states “Permanent job of a small organisation is not better than a contingent job in a large organisation”. The contingent job in C1-PB is perceived to be ‘stable and predictable’ because C1-PB has a continual demand for its IT workforce. Many contingent IT workers have continuous employment renewal. Participant C1.E is a typical sample. He has obtained multiple T-contract renewals and stayed with C1-PB for over five years. Moreover, a public organisation will not fire a worker, even if one is a contingent worker, without prior notification unlike that of commercial organisations. When IT project funding is approved, one knows that the project will have budget to hire contingent workers, and thus the contingent employment renewals are predictable in most cases. Participants C1.B and C1.C see contingent IT workers seeking stable but less aggressive career advancement are more likely to stay in C1-PB. Table 6.3 below summarises the above positive impacts from a contingent worker perspective.

Table 6.3: Positive impacts of contingent employment from the contingent worker perspective

<table>
<thead>
<tr>
<th>Positive Impacts</th>
<th>Contingent worker perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Career and personal development (5),</td>
<td>2. Career and personal development (5),</td>
</tr>
<tr>
<td>4. Manageable workload (4), and</td>
<td>4. Manageable workload (4), and</td>
</tr>
<tr>
<td>5. Stability and predictability (4)</td>
<td>5. Stability and predictability (4)</td>
</tr>
</tbody>
</table>
6.4.3. Negative impacts from the organisation’s perspective

From the literature survey on the negative impacts of contingent employment from an organisation perspective, there are four main concerns (see Section 3.3.3.1). They are ‘Leaking of private knowledge’, ‘Higher pay to contingent workers’, ‘Attitude and quality concerns’ and ‘Management of contingent workers’. In this case study, the ‘Leaking of private knowledge’ is not a concern; instead it is considered as a ‘Flow of knowledge’ (see Section 6.4.1). The ‘Higher pay to contingent workers’ is an attraction to contingent IT workers to join C1-PB instead of an issue. Participants of C1-PB raise three new negative impacts for C1-PB to adopt contingent employment as part of the resource strategy on IT projects. They are: ‘Risk of heavy reliance on contingent IT workers’, ‘Knowledge drainage’ and ‘Culture and adaption’.

The first concern that has been expressed by all the six participants is ‘Risk of heavy reliance on contingent IT workers’. The individual participants (Participants C1.D, C1.E and C1.F) have provided the percentage of contingent IT workers working on C1-PB’s IT projects. It ranges from 25% to 90%, which is project stage dependent.

“The ratio of in-house (permanent + direct contract) to body-shop workers on a project can be very high during development stage, say 1:9. However, as the project ends, body-shop contingent workers will change teams or leave the organisation. The ratio will go down to like 3:1 for maintenance and support purpose” Participant C1.D.

It is possible that all team members reporting to a project leader are all contingently employed. This was the case of Participant C1.F when he was interviewed in this case study. His whole sub-project team (including himself) was under a body-shop contract employment. He sees this is very risky as his team members can resign at any time. The average percentage of contingent IT workers as a total of C1-PB’s IT workforce quoted by all the participants is 50%. Participants C1.B and C1.C see the ratio of contingent IT workers has grown to an unhealthy level. Participants C1.A, C1.B, C1.C, C1.D and C1.E express that the government policy on contingent employment is changing. They see there will be tighter control on the headcount, budget or employment duration. Many government organisations, similar to C1-PB, have gradually increased the reliance on contingent workers to deliver their services. Continuous contract renewal is common, while body-shopping contracts are supposed to be for short-term needs or specific tasks. If the policy change is acute, C1-PB may be in trouble as it relies heavily on these workers for day-to-day project and IT work. Participant C1.B expresses strong worries on the situation because “[..] with today’s high percentage [50%], a change of policy on body-shop staff will be a disaster. In fact, the latest body-shop bulk contract already shows the intention to change policy”. Nevertheless, all the participants see utilising contingent
employment as a positive strategy. Participants C1.B, C1.C and C1.D see it is a matter of ‘balance’; the current level of contingent IT employment is too high.

The second most mentioned negative impact is ‘Knowledge drainage’. Four participants have this concern. All the three management participants (Participants C1.A, C1.B and C1.C) see C1-PB has provided on-the-job training and the best effort-based training and development opportunities to contingent IT workers. However, as these workers leave C1-PB, it cannot harvest such investments. Participant C1.C summarises that “We have a lot of investment on these temporary [contingent] workers learning the business, the methodology and experience. These temporary staff eventually will leave the organisation. These investments will be lost”. Knowledge drainage risk is related to the first negative impact – ‘Risk of heavy reliance on contingent IT workers’ on IT projects. Participant C1.D sees it may lead to a lack of in-house staff to learn and retain the project knowledge, and thus knowledge is drained as contingent workers leave the organisation.

The third impact is the ‘Management of contingent workers’. It is the concern of the three management participants (Participants C1.A, C1.B and C1.C). They have seen contingent IT workers leave C1-PB before contract expiry or reject contract renewal offers. C1-PB cannot keep contingent workers by providing personalised remuneration packages comparable to commercial organisations. They provide the items that have positive impacts (see Section 6.4.2) on contingent IT workers to retain people. C1-PB has been quite successful in this aspect as the attrition rate of contingent IT workers is described as low by Participants C1.A, C1.B, C1.C, C1.E and C1.F. Nevertheless, having a large number of contingent workers that can come and go easily is a burden to C1-PB. Participants C1.D and C1.F have expressed the worries of that their project team members may leave in the middle of the project especially when the majority of their project team members (may be up to 90% in some project stage) are contingently employed. Other than managing hiring, firing and retaining these workers, the employment status of contingent workers imposes management issues. Contingent workers (including project managers) cannot work on sensitive processes or tasks such as project finance management. In such cases, C1-PB has to supplement the deficiency with some in-house personnel. It is also a burden to C1-PB. Utilising contingent workers to take up key roles, such as vendor management, contract management, project management, is common in C1-PB. Participant C1.C sees this is not ideal, but there is no choice as having permanent establishment for new projects in C1-PB is not an option (mentioned by Participants C1.A and C1.C).

The fourth concern – ‘Culture and adaption’ is raised by Participants C1.C and C1.D. Participant C1.D has brought in a new working culture and practice into C1-PB’s IT project and experienced a period of culture shock. It took time for the existing team members to adapt to the new ways of doing things. Participant C1.C sees C1-PB has gone through the adaption period, and business users have learned how to adapt to the culture brought in by contingent IT project managers.
“When contingent [IT project manager] was first introduced in this organisation, the culture difference made users difficult to adapt. Over time, business users know that IT uses a lot of temporary workers including project managers. They get used to it now” Participant C1.C.

The last negative impact mentioned by two participants is ‘Attitude and quality concerns’. Participants C1.D and C1.F express one thing that easily triggers the emotions of contingent IT workers; it is the remuneration package. Contingent IT workers from different agencies, different employment arrangements (such as T-contract, ‘skill bulk’ contract, service contract, outsourced vendors) may work on similar work on the same project in C1-PB. They are likely to compare with one another their remuneration packages especially when they are going to renew their contracts. The gaps always make someone unhappy. These unhappy staff members affect the work attitude and quality of work of some project team members. Moreover, Participants C1.D and C1.F see the relationship with C1-PB at the organisation level is transactional and that the relationship with the agency is definitely transactional. Such relationships weaken the cohesiveness and bonding of a contingent worker with the organisation. Participant C1.F has seen some contingent workers who do not care about the project progress as they are measured by number of working hours in the work premises, not the productivity. The attitude of contingent workers toward work and the organisation affect the productivity and quality of outputs, and hence project success. Table 6.4 below summarises the above negative impacts from an organisation perspective.

<table>
<thead>
<tr>
<th>Negative Impacts</th>
<th>Organisation perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Risk of heavy reliance on contingent IT workers (6)</td>
</tr>
<tr>
<td>2.</td>
<td>Knowledge drainage (4)</td>
</tr>
<tr>
<td>3.</td>
<td>Management of contingent workers (3)</td>
</tr>
<tr>
<td>4.</td>
<td>Culture and adaption (2)</td>
</tr>
<tr>
<td>5.</td>
<td>Attitude and quality concerns (2)</td>
</tr>
</tbody>
</table>

6.4.4. Negative impacts from the contingent worker perspective

From the perspective of contingent workers, the thesis literature survey summarised five negative impacts (see Section 3.3.3.2). These are ‘Lack of career development’, ‘Absence of training and development’, ‘Job insecurity and instability’, ‘Lack of sense of inclusion’, and ‘Lower pay level, benefits and working conditions’. The findings in this case study are quite similar to the literature survey result except that there is no concern for a lower pay level. Instead, there is one additional concern – ‘Agency exploitation’.
‘Job insecurity’ is a common concern for all participants. This may seem to be contradictory to the fifth positive impact of contingent employment - ‘Stability and predictability’ (see Section 6.4.2). However, participants see having job stability and predictability are not equivalent to having job security. Contingent IT work has been stable in C1-PB because of the continuous demand of IT personnel in the past few years, and predictability comes from the budget approval prior to the commencement of IT projects. When the budget is approved that means there will be jobs and the likelihood of having one’s contract renewed. However, there is no guarantee of long-term employment. Sometimes the contract period is quite short. Participant C1.F has quoted his poor experience on contract renewal. He says, “Every contract renewal is a hurdle and people may worry. My contract renewals had been quite unstable. It could be every 3 months, every 6 months or every year. It fluctuated”. Moreover, when there is no more work or when the projects are winding down, contingent workers will be fired. However, there is enough notice to the affected workers. Contingent workers with marketable skills may have an internal market to move to other projects that have funding. However, contingent workers working on older technologies or application support and maintenance work are likely to leave C1-PB when the new replacement systems are implemented; the old systems are outsourced for support; or the original in-house staff return to their former roles (mentioned by Participants C1.A, C1.B and C1.C). Moreover, the government policy on contingent employment is changing. Participants believe that there will be tighter controls on the headcount, budget or employment duration. This is a risk to the existing contingent workers. Nevertheless, even though job security is not protected in C1-PB, Participants C1.C, C1.E and C1.F see it is better to work on a T-contract for C1-PB than on a permanent job for a small company. The ‘Job stability and predictability’ benefit overrides the drawbacks of ‘Job insecurity’. Participant C1.E provides a good summary below.

“I see the stability advantage over rules all disadvantages. Working as a T-contractor here [in C1-PB] is stable, and I know I still have income tomorrow even the agency gains a lot from my T-contract. This is better than the unknown outside world [...] I like the stability and predictability as a T-contractor” Participant C1.E.

The second drawback of being contingently employed is ‘Agency exploitation’. Both the management participants (Participants C1.A, C1.B and C1.C) and the individual contingent worker participants (Participants C1.D, C1.E and C1.F) of this case study have concerns on such practice.

“I see most agencies care the return on investment (ROI) more” Participant C1.C.

“The role of an agency is, of course, to find a job for contingent worker like me to fill a job request of an employing organisation. I do not see the agency has any contribution other than
providing human resources (HR) services such as payroll and MPF. No other benefits or training are provided” Participant C1.E.

All the six participants of this case study see the agencies are the beneficiaries of the contingent employment strategy. The agencies take an enviable portion of the agency fee between the rate paid by C1-PB and that paid to the contingent workers. The agency contract arrangement is a flat rate for every job level per agency. The greater amount an agency can press the contingent workers on their packages, the better its profit. Therefore, the agencies are perceived to provide as little benefits as legally possible to contingent workers to maximise their profit.

“T-contract staff [...] is paid on daily rate. These workers [...] dare not taking leave even when they are sick. Taking leave means no pay and affects their income” Participant C1.D.

“Today, if I take a longer vacation to travel, I have salary deduction. Also, I do not have paid sick leave now. I came to work even I was sick. Some T-contract colleagues may come to work with masks and they say even one needs to sleep, come back to sleep. I see it is not human to have no paid sick leave and no medical benefits at all” Participant C1.F.

Before the commencement of the recent T-contract - the T22 contract, there was no paid sick leave, annual leave or medical benefit as per Participant C1.D and Participant C11.F. Even if such benefits are provided, it is like “the wool comes from the sheep”, said Participant C1.D. The agencies cut the cost from the package of contingent workers. Moreover, no investment in learning and development of contingent workers are provided by agencies, although Participant C1.A says that it is part of the obligation of an agency to provide a half-day training per month to every contingent worker according to the T-contract between the OGCIO and the agencies. However, neither of the two T-contract participants (Participants C1.E and C1.F) of this case study has attended free training or development programmes supplied by their agencies. Participant C1.A explains that some contingent workers may cash-in the half-day training instead. Nevertheless, all the participants believe agencies should do more. Participant C1.E states the expectations.

“The agencies are the employers of contingent workers and should provide basic benefits like medical, paid sick leave, annual leave and some career-related training. It will be better if career path consultation can be provided as a value-added service to employees” Participant C1.E.

The third negative impact on contingent workers is ‘Lack of career path’. There is no formal career development path for contingent IT workers. Contingent workers’ performance has no direct linkage to their income or career advancement. Even if there are job openings the recruitment has to go through a fair and open process.
“There is no direct path for anyone to change from body-shop staff to direct contract staff”
Participant C1.B.

“In any organisation, if a permanent staff member can perform, he or she will be promoted. There is no such path for contingent workers. No one will consider promoting a contingent worker” Participant C1.F.

Nevertheless, moving up the body-shop contract path is already easier than moving across to the direct contract path (see Section 6.4.2) and not to the permanent career paths in C1-PB. There is looser headcount control (but budget control) under a T-contract compared to a direct contract, regular employment or civil servant employment. Participants C1.A and C1.B say there have been cases that some direct contract staff sacrificed job security and changed to work on a T-contract so as to get a promotion in C1-PB. The fact that there is no formal career path and a lack of promotion opportunities, contingent workers can only keep renewing contracts on the same job level while performing some next level tasks. This has been the case of Participant C1.E who has stayed at the systems analyst level for over five years. His career growth is on his job scope that has been expanded to include certain project management tasks that are beyond his job level’s responsibility.

Moving up the path to be a project manager within C1-PB as a contingent worker is almost impossible. Both Participants C1.E and C1.F have their career aspiration to be an IT project manager in the future. However, the minimum requirement to be eligible to apply for a project manager level post is one year experience in a project manager role. The experience as contingent systems analysts (SA) or senior systems analyst (SSA) in C1-PB is not counted as project manager experience even though they perform some project management tasks. SA or SSA cannot be promoted to be a project manager without prior proven experience. Therefore, all the project manager vacancies are filled by external applicants. Those who want to be a project manager in C1-PB have no choice but to leave C1-PB. “The way to acquire the minimum experience requirement is to be a project manager in another organisation for at least one year”, said Participant C1.F. However, if one gets a good project manager job in another organisation, one may not come back to C1-PB. In fact, there is no path to be an IT project manager within C1-PB without transitioning out of C1-PB.

The fourth most mentioned drawback to be a contingent worker is suffering from ‘Lower benefits and working conditions’. All the three individual participants (Participants C1.D, C1.E and C1.F) express their great concern on the lack of certain basic benefits such as paid sick leave, annual leave and medical benefits. This is similar to the second negative impact – ‘Agency exploitation’ -- mentioned above. The recent T22 contract has improved the benefits coverage including basic annual leave, sick leave and a half-day training per month. Other than the benefit concern, long working hours is another
unfavourable working condition of contingent IT workers. Today, in C1-PB, all the agency contracts are charged on working days, not on outputs.

“Hong Kong employers are happy if they can see an employee sitting there for eight hours or 10 hours because they purchase his or her time. They look at the time and effort rather than the deliverables” Participant C1.A.

Contingent workers such as Participants C1.D and C1.F see that the contingent IT workers are likely to the most hard-working group among the IT workforce in C1-PB. They need to seek performance for contract renewal, and they are afraid of being fired. Moreover, they have no or little paid leave, they cannot take long vacations like those of the in-house staff members who also have a lot more paid leave as part of their packages. Therefore, the contingent IT workers always work the longest hours in the IT group. Participant C1.A mentions another unfavourable working condition “The status as a contingent employee, sometimes impose limitations on the job”. Certain work can only be performed by civil servants or authorised personnel. For example, contingent project manager cannot have access to the budget, salary and finance data. These tasks can only be performed by those with the appropriate authority. This limits the learning of contingent project managers in C1-PB. This also affects their long-term career development.

The fifth negative impact mentioned by participants is ‘Lower training and development investment’. As part of the policy, C1-PB will not invest to train body-shop workers who are supposed to have acquired the necessary skills before they are hired on the job. The management participants (Participants C1.A, C1.B and C1.C) admit that they cannot do too much on contingent workers’ development but see that C1-PB has tried its best to provide training to contingent workers administratively for example, allowing them to sit in vendor product briefings. However, individual participants (Participants C1.D, C1.E and C1.F) see this is part of the job requirement to sit in those ‘training sessions’. They do not consider this as an investment for them. Participant C1.D believes that employers should not “penalise [contingent workers] for taking no-pay day off for the training”. Participant C1.E says some of the soft techniques need proper training and cannot be learned through self study or by browsing the internet. It is better if the organisation can help contingent workers to develop such capabilities. Participant C1.F clearly expresses that such investment does not just develop skills and capabilities but also helps to build the employer-employee relationship. He says, “Training and development investment should be paid by the employing organisation. If the employing organisation does not invest, the contingent employees do not see it is an organisation that worth to stay on. Just some small investment illustrates that the organisation cares about me”. Last but not least, contingent workers who taking the role as a replacement of an in-house staff on support and maintenance work of existing systems feel this work is not desirable (see Section 6.2.2). C1-PB may provide training to these contingent workers regarding the old technologies utilised by the
existing systems. Participant C1.B sees such arrangement as unfavourable to these contingent workers as the skills and knowledge acquired are outdated, and their marketability depends upon whether there is still demand for this knowledge in the market.

“Using contingent body-shop staff for support and maintenance purpose has more bad impacts than good impacts. On staff development, contingent workers don’t have much new skills to learn as the existing systems used some old tools to develop. Contingent workers who are familiar with certain new technology or tools cannot apply their skills here and their skills will become outdated” Participant C1.B.

The last item mentioned by the participants is ‘Lack of a sense of inclusion’. The employment relationship is transactional as C1-PB does not employ the contingent workers directly but via human resources agencies. Participants C1.D and C1.F see it is difficult for contingent workers to build a strong sense of belonging with C1-PB as they do not feel C1-PB is a place for a long-term career. Contingent workers may be happy with their remuneration packages but not with their status as contingent workers. They do not feel they are an essential part of the organisation but only are viewed as tools or a sum of money in exchange of services. There is no sense of inclusion.

“As a body-shop contingent worker, no one cares about me as a person [...] It is a transactional relationship like trading [...] When an employer does not care its employees, employees will not care for the employer as well” Participant C1.F.

Dissatisfaction is also accumulated when contingent workers compare their packages. They do not want to be exploited by agencies; they seek to learn the remuneration of others of the same job level. This type of comparisons sometimes creates conflicts or jealousy. An unhappy atmosphere may be created at work from time to time. Table 6.5 below summarises the above negative impacts from a contingent worker perspective.

Table 6.5: Negative impacts of contingent employment from the contingent worker perspective

<table>
<thead>
<tr>
<th>Negative Impacts</th>
<th>Contingent worker perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Job insecurity (6)</td>
</tr>
<tr>
<td></td>
<td>2. Agency exploitation (6)</td>
</tr>
<tr>
<td></td>
<td>3. Lack of career path (5)</td>
</tr>
<tr>
<td></td>
<td>4. Lower benefits and working conditions (5)</td>
</tr>
<tr>
<td></td>
<td>5. Lower training and development investments (4)</td>
</tr>
<tr>
<td></td>
<td>6. Lack a sense of inclusion (2)</td>
</tr>
</tbody>
</table>
6.4.5. Impacts beyond the organisational boundary

In this case study, the participants have raised three areas that may be impacted by the contingent employment practice in the Hong Kong IT sector, and these areas are beyond the organisational boundary. However, such external impacts also affect C1-PB as it is also one of the key employers of contingent IT workers in Hong Kong.

6.4.5.1. Two disadvantageous groups

In Section 6.2.2, it mentioned contingent IT workers employed by C1-PB basically play three roles: being assigned to a new project utilising latest technologies; being a replacement of an in-house staff to take up support and maintenance work of an existing system; or being responsible to guide a vendor team to deliver a project. The basic requirements to be hired as a contingent worker in C1-PB is one must have the necessary qualification and prior experience to assume the assigned role. Those who join projects utilising latest technologies should have picked up the technology and have gone through some projects utilising similar technologies in other organisations; those who take on support and maintenance work of existing systems should have the knowledge and experience of those older tools and technologies; and those who are assigned to manage the vendors should have basic knowledge of the related vendors’ technologies and have held a similar vendor management role in another public or large commercial organisations using some formal project management methodologies. The basic qualification and experience required to be a C1-PB in-house IT staff member is similar to those required to be contingent workers, but the selection process is much more complex. From this perspective, it is difficult for young and in-experienced IT professionals such as new graduates to join organisations like C1-PB even as contingent workers, not to say as an in-house staff. Four of the six participants expressed difficulty experienced by young IT professionals to find a permanent job in sizable Hong Kong organisations. Participants C1.E and C1.F believe that only organisations in the financial sector or small organisations still hire junior-level IT people as permanent workers. Small organisations are those with less than 50 employees as defined by VTC(2010).

“There is not much future to work in Hong Kong’s IT field. Today, not many organisations have an in-house IT arm like this organisation. A lot of their projects are delivered in China […] I see the young graduates may either work in Hong Kong IT at a low salary or go to China to work there. Luckily that Hong Kong still has the finance industry that hires analyst programmers (APs); otherwise, there is no job for the younger generation” Participant C1.F.

More Hong Kong IT work is outsourced to vendors. This is also the practice of C1-PB (see Section 6.2.2). Participant C1.C is in charge of the application development function of the IT group of C1-PB, and he sees there are more outsourced IT projects in C1-PB than in-house developed ones. Vendors responsible for the outsourced projects may not deliver the work totally by local staff. It is
likely some of the work is done in the Mainland China. Participants C1.A, C1.E and C1.F see Hong Kong’s low-end IT work cannot compete with low cost countries such as China and India.

“The IT industry is changing [...] We have a lot of competitors; they are very close and very inexpensive. Next to us, we have 1.3 billion people [in China]. Next to it is another 1.1 billion [in India]” Participant C1.A.

There are challenges for a new graduate or an inexperienced IT professional to get a permanent job in the early years of one’s career in Hong Kong. Public organisations like C1-PB normally do not offer jobs to inexperienced candidates. C1-PB has an internship programme to provide learning opportunities to students of local universities and colleges. However, there is no programme for new IT graduates so far. This group of IT professionals may be seen as a disadvantaged group in the IT sector. Contemporarily, young people in Hong Kong (not limited to those in the IT sector) complain that there is a lack of opportunities for their career growth. Participants C1.A, C1.C, C1.D and C1.F see that the career of young IT professionals is not bounded by their contingent employment status.

“You need to own your career as there is no guarantee of future job by the current employer” Participant C1.A.

“Today, maybe a lot of young IT people, they can hardly find a permanent job. Fresh graduates may begin their career with a contingent job. My view is no matter what kind of job you work on, you need to demonstrate your capability. If you perform well, the employer may give you a permanent job. Alternative, if you find that the contract job nature suits you, you can continue. I see the contingent path is not bad” Participant C1.C.

“I do not see the younger generation’s slow progress in a career is because of being contingently employed. It all depends on the individual. I see the younger generation today is not aggressive enough” Participant C1.D.

“For young IT professionals or fresh graduates of IT, they may not get a permanent job easily. I see it is fine for young people to hop around contingent jobs for some time. They hop [and] get higher pay [...] it may be easier to get a better title [...] The fact of course their foundations will be weak. [...] They may have a broad but shallow exposure. They cannot build up a good foundation. One can gain better foundations from a sizable organisation by staying there for some time” Participant C1.F.

In summary, C1-PB participants advise young and in-experienced IT professionals to practise (i) owning one’s career development, (ii) performing well; (iii) having the right attitude; and (iv) learning
on the job to build foundations. They should capitalise opportunities that come to him or her regardless of whether it is a permanent or contingent job.

The other group of contingent IT workers that may be disadvantageous is the older technology oriented group. This group include contingent workers in C1-PB who are replacements of in-house staff to take on support and maintenance work of existing systems. Participant C1.B worries that “their skills will become outdated” after they work on such role for a period of time. They are likely to have fewer choices in the job market as compared to those contingent IT workers having knowledge of latest tools and technologies. Participants C1.A and C1.B see the future of this group of contingent workers depends if there is demand for their skills that include knowledge of old technologies and tools, understanding of government project processes and practices, and business processes of existing systems. Participant C1.A believes there are four possible choices: (1) obtaining jobs in large corporations using similar technologies; (2) working in the IT groups of other government departments using similar technologies; (3) working in new projects utilising accumulated business knowledge in the same organisation; and (4) working for IT vendors that take the outsourced support and maintenance services of older systems utilising similar technologies. Of course, IT people in this group may choose to leave the group by learning modern technologies or moving up the career ladders to some job levels that are less dependent on the technical capabilities.

6.4.5.2. IT not yet a profession in Hong Kong

Hong Kong’s contingent employment market in the IT sector is mainly through human resources agencies. Participants C1.A and C1.F see there are less freelancers or self-employed professionals as compared to the western countries, such as Australia, Canada, the United Kingdom (UK) and the United States (US), that have a much longer contingent employment history than that of Hong Kong. One of the reasons suggested by Participants C1.A and C1.D is there is no tax incentive in Hong Kong to run a one-person business. HKSAR Government does not encourage self employment. The other reason is that the ‘IT profession’ is not a recognised professional such as a lawyer or an accountant. It makes it hard to measure the value of IT deliverables and to price IT services provided by an individual. Hong Kong customers only purchase the person-days of IT workers.

“This is very different from the western world. In Hong Kong, we hire IT contingent workers as low-end body-shop [...] in western countries, they hire IT professional as consultants and purchase their deliverables [...] It is the culture difference. Hong Kong is not yet ready to deal with deliverables” Participant C1.A.

“It is not the case [of professionals such lawyers or accountants that have recognised qualifications] and therefore it not easy for IT people to be an individual freelancer” Participant C1.C.
Participant C1.E stated that in C1-PB, there is a “working hour tracking practice that applies to body-shop [staff]”. Hong Kong contingent IT workers, such as Participant C1.F, who are unhappy with Hong Kong’s employment situation.

“Some of my friends go to work in some western countries. They work happily in the UK, US and Australia’ IT field. These countries’ employers respect the working hour of workers. They will not push the staff to keep working until they cannot bear it [..] I feel western countries treat the employees much better; they have work life balance and have good relations with employees” Participant C1.F.

Participants C1.A, C1.C, C1.D and C1.F seem to agree that Hong Kong’s IT sector contingent employment market is not as mature as many western countries or technology areas such as the Silicon Valley. They have a much better set up that recognise the value of IT experts or consultants to the IT sector or even to the community. IT professionals are respected and enjoy work life balance.

6.4.5.3. Is contingent employment good or bad in the Hong Kong IT sector?
Four participants (Participants C1.A, C1.B, C1.C and C1.D) have expressed their views on this matter. Participant C1.A sees Hong Kong’s IT sector hires contingent IT workers because the projects come and go. Many of these workers are hired as low-end body-shop workers without special skills. He explains “many Hong Kong contingent IT professionals whose skill set is commonly available and the price is pressed to very low”. This may have led to the exploitation by the human resources agencies as these contingent workers are not independent contractors or consultants as in the western world. Even worst, this group of contingent workers are facing keen competition from low cost near-by countries such as China and India. There are abundant supplies of inexpensive IT resources. He sees the current contingent employment practices in Hong Kong do not support the development of high calibre IT professionals in Hong Kong. The heavy use of agencies in contingent employment is not positive to the Hong Kong IT sector. Participant C1.B holds the view “The use of body-shop workers in the IT sector mainly benefits the employing organisations but not to the IT sector or the individuals”; IT is a very pragmatic industry “when an individual’s skill is in demand, he or she is great; when the skill is no longer in demand, the individual becomes less marketable”. Participant C1.B sees the industry can only sustain if the practitioners can keep up their skills. He suggests leaders in the IT sector such as CIOs or IT managers need to do more. Participants C1.D and C1.F also supports the view that employers should pay for the investment of the development of IT practitioners, and it should be independent of their employment status. Participant C1.D concludes that “In the end, the knowledge is still in the industry. After some time, the contingent workers may come back to serve the same organisation again even after they left the organisation”.

140
Participant C1.C looks at the question from another point of view. Practically, many organisations like C1-PB cannot establish new headcount for every new initiative. Contingent employment is a way to recruit a capable project team quickly and fulfill the business needs. This also creates jobs in the labour market. This is the win-win-win situation to the industry, the organisation and the individual as “the industry survives; the organisation achieves business objective; and individuals have jobs”. From this perspective, contingent employment has a positive contribution to the IT sector. However, he sees if organisations have long-term needs on certain roles, a permanent position should be in place. He explains “it is unhealthy to have contingent employment for a long period of time”. This is similar to the viewpoint of Participant C1.B.

This section has investigated the impacts of contingent employment from both the organisation and contingent worker perspectives and some impacts beyond the C1-PB organisational boundary. Table 6.6 below provides a summary of the impacts discussed in this section. The next section will describe the organisation learning model currently practised in C1-PB.

Table 6.6: Impacts of contingent employment in case study organisation C1-PB

<table>
<thead>
<tr>
<th>Impact Category</th>
<th>Organisation Perspective (number of participants)</th>
<th>Contingent Worker Perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacts Beyond Organisational Boundary</td>
<td>1. Two disadvantageous groups (6), 2. IT not yet a profession in Hong Kong (4), and 3. Contingent employment is good or bad to Hong Kong IT sector (4).</td>
<td></td>
</tr>
</tbody>
</table>
From the above analysis, the contingent employment strategy of C1-PB imposes both positive and negative impacts to the organisation and the individual contingent workers. By choosing contingent employment as one of the key resource strategies of C1-PB on IT projects, it looks for a way to migrate the negative impacts caused by the come and go nature of the contingent workers. C1-PB has practices to retain knowledge in-house so as to reduce the impacts caused by ‘Risk of heavy reliance on contingent IT workers’ and ‘Knowledge drainage’. When knowledge is retained, the impacts from ‘Management of contingent workers’ and ‘Attitude and quality concerns’ may be more manageable. Ultimately, project success has a greater likelihood of occurring. From the contingent worker’s perspective, job security does not come from the employers but from one’s employability. One’s career is self managed; training and development opportunities have to be fought for on-the-job or acquired through other means. Contingent workers may have adopted certain learning practices to mitigate those negative impacts listed in Table 6.6 above. The following section will analyse the current learning practices adopted in C1-PB at the individual, group (IT group or IT projects) and organisation levels.

6.5. **Organisational Learning and Project Success**

6.5.1. **Organisational learning of case study one organisation**

The organisational learning activities of case study one organisation - C1-PB -- have been analysed using the Järvinen & Poikela’s (2006) process of learning at work model. It contains four learning processes (social, reflective, cognitive and operational) in the three levels (individual work, shared work and organisation’s work). Details of the model can be found in Section 3.4.5.3 of this thesis. Table 6.7 below is the summary of the organisation learning activities according to the analysis of the interview data from the participants and the triangulation document (see Appendix C1) reviewed about C1-PB. The four learning processes of C1-PB in the three levels (individual, group and organisation) are detailed in the following paragraphs.
Table 6.7: Organisational learning model of case study one organisation. Source: Järvinen & Poikela’s (2006) process of learning at work model

<table>
<thead>
<tr>
<th></th>
<th>Social Processes</th>
<th>Reflective Processes</th>
<th>Cognitive Processes</th>
<th>Operational Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual:</strong> Context of individual's work (IT staff of C1-PB)</td>
<td>* Practice on the job</td>
<td>* Self study</td>
<td>* Formal learning</td>
<td>* Giving opportunities</td>
</tr>
<tr>
<td></td>
<td>* Progressive job complexity</td>
<td>* Learning from in-house or contingent workers</td>
<td>* Industrial qualification</td>
<td>* Experimenting new practices</td>
</tr>
<tr>
<td></td>
<td>* Informal networking</td>
<td>* Self reflection</td>
<td>* Accumulating creditability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Informal coaching from senior colleagues</td>
<td>* Contributing best practices</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group:</strong> Context of shared work (IT Group or IT project teams of C1-PB)</td>
<td>* IT project execution</td>
<td>* IT project audit</td>
<td>* Formalising project management methodology</td>
<td>* PMO and TA driven continuous improvement</td>
</tr>
<tr>
<td></td>
<td>* Project knowledge sharing</td>
<td>* Bridging roles (PMO and TA) sharing lessons learned across projects</td>
<td>* Documentation</td>
<td>* Experiment new IT project strategies</td>
</tr>
<tr>
<td></td>
<td>* Formal meetings</td>
<td>* Formal project closure</td>
<td>* Portal and intranet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Informal cross sharing</td>
<td></td>
<td>* PMO and TA as centres of knowledge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Job rotation</td>
<td></td>
<td>* PMO and TA driven continuous improvement</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organisation:</strong> Context of organisation's work (C1-PB)</td>
<td>* IT systems delivering business results</td>
<td>* Project and system metrics</td>
<td>* Policies and guidelines</td>
<td>* Maturity improvement</td>
</tr>
<tr>
<td></td>
<td>* Increasing user expectations about IT work</td>
<td>* Employee surveys</td>
<td>* Training policy</td>
<td>* Experimenting new policies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Performance review</td>
<td>* Human resources policy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Knowledge protection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* New hire orientation</td>
<td></td>
</tr>
</tbody>
</table>

0.0.0.1. Social processes

Social processes are about the “sharing of know-how knowledge and experience between the individual, the group and the whole organisation. Learning requires participation” (Järvinen & Poikela, 2006, p. 181). For any new IT project initiative, C1-PB draws upon both in-house resources with existing business knowledge and external contingent IT workers with the technical knowhow. Individuals contribute their knowledge, and in return they learn new skills by practising on the job. Regardless of the employment status of IT workers, if they perform well on their job, their job scope will gradually be expanded, and they will work on more complex project tasks. Participants C1.D, C1.E and C1.F have experienced such advancement in C1-PB. In order to acquire the necessary project knowledge, one may need to acquire knowledge and experience from other project team members who may be business users, IT vendors’ staff, supervisors, colleagues or other project teams’ colleagues. Such learning is normally through some informal personal networks.
At the group level, within a project team or within the IT team under the same SITM, learning occurs through interactions of IT workers and other project participants. They learn from one another through on-the-job execution. A good example is that some IT project teams have practices that encourage project team members to present their understanding on certain aspects (such as business or technology) of the project. This serves two purposes. One is to check if the presenters truly understand the subject matter they present; and the other is to spread the knowledge to more project team members. However, this is not a regular event and is project manager or SITM dependent.

“There used to have some sharing sessions within the same team or across projects under the same senior IT manager [...] That was a one-off exercise, not a regular event” Participant C1.E.

It is a common practice in C1-PB to have regular formal meetings at the project team, SITM team and IT group levels. Participants of the meetings learn the progress of the project(s) and IT initiatives at the meetings. Cross project sharing and learning happens in these formal meetings but are limited to the formal project progress or status updates. Participants C1.C and C1.D see informal communication and sharing as a more effective channel to learn from others.

“[...] through on-the-job training and contact with senior people, an individual can learn from others informally” Participant C1.C.

“I enhance my PM skills mainly by listening more and having more communication with my own team and with other teams. I see I learn everyday” Participant C1.D.

Participant C1.B has mentioned there is job rotation practices within the IT group of C1-PB to let more IT staff have multiple-system knowledge and to retain valuable knowledge. This is also the practice of civil servants who need to rotate to other government departments every few years.

“One solution [to retain knowledge of existing systems] is to rotate some staff across different systems every year to increase the number of workers with multiple-system knowledge. This is not just for retaining knowledge purpose but for contingency and management in case the workers go and also to improve their working experience exposure” Participant C1.B.

At the organisation level, business users are those who participate on new IT projects or use the IT services. C1-PB maintains a demand for IT resources because there have been many new IT projects and initiatives to upgrade, replace or create new IT applications and infrastructure to support the growth of the organisation. Participant C1.A claims that users are more IT literate. When IT systems are able to deliver more and drive business results, the business users learn to ask for more from IT.
Their requests drive the IT group to develop newer IT projects and demand IT workers to learn the latest technologies and tools.

Table 6.7 above summarises the social processes of learning in C1-PB across the three levels (individual, group and organisation).

0.0.0.2. Reflective processes
Reflective processes are about “the factors relating to the obtaining and giving of individual feedback, the assessment discussion of groups and the drawing of conclusions as well as the continuous evaluation for promoting the development of the whole organisation” (Järvinen & Poikela, 2006, p. 182). Individual participants (Participants C1.D, C1.E and C1.F) see that self study is the most essential and effective way of learning in the IT sector. IT is a fast changing industry. One needs to catch up on the use of new tools, technologies or practices to survive. Participant C1.A sees that the IT world has provided an environment such as the internet that facilitates IT people to practice self study. In C1-PB, as each new person joins a new project, they have to quickly study the context of the project by reading all the project documentation and browsing the C1-PB intranet. In addition to self study, learning from people on the projects is also seen to be important by Participant C1.D. These people include project managers, systems analysts, business users and vendors. Moreover, C1-PB intentionally mixes in-house staff and contingent IT workers as part of its human resources strategy. The ultimate goal is to let them learn from one another, and C1-PB is able to gain superior business and technical knowledge from the in-house and contingent staff.

Self-reflection is another reflective learning practice that has been mentioned by Participants C1.D and C1.E. They personally practise self-reflection from time to time. “It is more my personal practice. Self-reflection is not a requirement”, said Participant C1.E. From a mentoring or coaching perspective, within C1-PB, there is no formal programme, but informal coaching may happen on the job.

“We do not have formal mentoring or coaching programmes. However, through on-the-job training and contact with senior people, an individual can learn from others informally” Participant C1.C.

Moreover, in C1-PB, IT workers come and go at different time at different stages of projects, the project managers or the corresponding systems analysts have to spend time to coach new-comers and provide personal care instead of going through formal training or team-building programmes at the project level (mentioned by Participant C1.D).
Group level reflection happens in the form of IT project audits by the PMO as part of the CMMI requirement in C1-PB. This is a relatively new practice in C1-PB. However, it is seen as an essential improvement step in the C1-PB IT project management. This lets contingent workers such as Participant C1.E feel C1-PB is a good organisation to stay with because it is serious about project management.

“Our IT group has experienced the advantage of having the CMMI qualification. […] all IT colleagues must follow the basic quality requirements. We are more serious […] because these things will be audited. I also learn something new and some project management stuff from the group implementing CMMI” Participant C1.E.

In addition to being an independent third party on project reviews, the PMO also plays a bridging role in sharing best practices and lessons learned from a project management perspective across projects. In C1-PB, there is another team, called the TA team, which is the central IT architect team, playing a bridging role. Technical architects or leaders working on different projects are members of this team under the leadership of a few central TA team leaders. They facilitate project technical architects and leaders to understand the central architecture framework that is the standard of all IT systems in C1-PB. They also serve as the bridge to share best practices and lessons learned from a technical perspective across projects. Furthermore, as part of the CMMI requirement, projects will go through formal project closure to document the lessons learned. These documents will be posted on the CMMI portal that serves as a central repository. However, there is no formal cross-project sharing sessions on lessons learned.

“There are a lot of projects and project managers in this IT group, but cross sharing on how to better manage projects or lessons learned are rare” Participant C1.D.

Interested parties can have access to such information from the portal. Practically, “people are too busy to read those documents [on the CMMI portal]” said Participant C1.D. Within project sharing of good and bad news on a day-to-day basis is project manager dependent. There is no formal enforcement at the IT group level.

At the organisation level, IT systems are serving the business. The PMO reviews IT projects and measures the outcomes. Metrics at project and system levels are collected and periodically compiled. Participant C1.A finds the metrics provide proof that IT has delivered more reliable systems to business users at a lower cost through higher productivity.

“Metrics and statistics [show that there] has been visible improvement on our systems’ reliability and productivity on the support and maintenance works” Participant C1.A.
The IT group provides metrics and statistics to demonstrate the performance of IT to the organisation; C1-PB also periodically performs staff surveys to look for organisational improvement. A good example was a full scale staff opinion survey conducted in 2007 (see Appendix C1) that led to a series of staff engagement initiatives, and the satisfactory result was reflected in the mini staff opinion survey done later in 2009. These surveys have contributed to the introduction of the new regular employment establishment, which was officially launched in 2010. Eligible direct contract staff can be converted to the new employment terms. The outcome is highly encouraging; a majority of the direct contract staff have been converted to the new employment term by early 2011 (as per Participant C1.A). C1-PB also has formal processes to reflect the performance to individual staff. Conducting a formal performance appraisal is an organisational policy to provide feedback to in-house staff of C1-PB. It is an annual human resources management exercise. For body-shop staff, the PMO of C1-PB requires the hiring manager conduct half-year and end-of contract performance reviews for each contingent IT worker. Although the results do not contribute to promotions or salary increases of the contingent workers, it is captured in C1-PB’s contingent workforce portfolio database for future job or contract renewal reference.

Table 6.7 above summarises the reflective processes of learning in C1-PB across the three levels (individual, group and organisation).

0.0.0.3. Cognitive processes

Cognitive processes are about “the production, sharing, transfer and recording of knowledge and new models or concepts coming from the employee, the group and the whole organisation. Experience-based knowledge, to which has been added externally acquired knowledge, is at this stage refined into more general knowledge for the organisation's databases” (Järvinen & Poikela, 2006, p. 182). In C1-PB, from an individual perspective, most of the IT workers have a relevant degree qualification. Some may continue to go through formal learning on a part-time basis. An example is Participant C1.F, who obtained his master degree with the sponsorship from his ex-employer. Participant C1.D has chosen to obtain an industrial qualification, the PMP® from the PMI by obtaining the training and examination funding from her ex-employer. Both Participant C1.D and Participant C1.F were in the status as permanent staff of their ex-employers when they obtained such sponsorship. However, continued formal learning and obtaining industrial qualification is not generally followed in C1-PB. Participant C1.D, stated that “[..] not a lot of IT people spend time on studying in this organisation [C1-PB]. There may be some who went to have some Java certification when Java was hot in the market”. Nevertheless, the expectation of C1-PB is different. Both Participants C1.A and C1.B see that C1-PB seeks project manager candidates with formal project management qualification or those who have gone through formal project management training. Personally, none of the six participants use formal
qualification as the most essential assessment criterion as they hire a new IT worker. They value actual work performance and experience of the candidates.

“At the end it is all about their practice and experience” Participant C1.A.

“[..] my personal experience is [..] those without the [formal project management] qualifications seem to be performing better than those with the qualification. This is people dependent” Participant C1.B.

“[..] Academic performance and work performance need not go hand-in-hand. Some highly educated people do not have a good job, but some with relative low talent in studies perform very well at work” Participant C1.D.

Therefore, IT workers are more concerned about accumulating on-the-job creditability. It is ones’ creditability that provides job security, not the formal qualification. This is particularly important to contingent IT workers who need networking to get better job offers in the IT sector or to obtain employment renewals within C1-PB. Participant C1.D believes that one is better off to work on some high profile projects to gain one’s reputation and creditability because one’s performance is more visible in high profile projects. Moreover, as one is truly recognised as an expert or good performer, one will be asked to contribute the specialised skill to the organisation. Participant C1.D see architects of different projects share their knowledge and best practices through the TA team as a way of demonstrating their capabilities to informally learn from one another. Therefore having opportunities to accumulate credibility and contribute best practices to others are considered to be essential means of cognitive learning.

At the group level, the IT group of C1-PB has invested heavily to develop the CMMI processes and obtained the certification. Anyone in C1-PB who works on an IT project can learn what project management is in C1-PB because they must follow the CMMI processes.

“As we already have CMMI framework as a structured project management methodology, anybody can learn and pick it up” Participant C1.C.

The importance of having a formal project management methodology is not just educating project participants but enforcing quality and standard compliance. It demands proper documentation throughout the project life cycle. This is how C1-PB retains project knowledge without relying on one person’s individual knowledge. Five of the six participants have mentioned that proper documentation is the key to survival in C1-PB under the contingent employment human resources strategy. “Without documentation, we definitely cannot survive”, said Participant C1.B and “avoiding knowledge
drainage when contingent workers leave the organisation is mainly by documentation”, said Participant C1.D. Templates, tools and guidelines of CMMI are all published on C1-PB’s intranet in the form of a portal. Individual project documentation with proper security access control is also posted on this portal. It provides transparency to staff in C1-PB to understand project implementation processes and IT management to follow the project activities. Participant C1.F even says, “Some new colleagues felt excited when the new [CMMI] processes were introduced. They may have never have gained experienced of these processes or certain kind of documentation without it”. The role of enforcing the implementation of the CMMI in C1-PB is under the PMO of C1-PB. This team is made up a few full-time staff. It centralises the IT project management knowledge of C1-PB and plays the governance role to enforce the standards. One of the methods used is the IT project audit. The TA team is another organisational structure in C1-PB that centralises the organisational knowledge. The focus is on technical knowledge. Both the PMO and TA team are considered as the central body of knowledge and governance in C1-PB. They ensure organisational learning is efficient and effective.

On top of the IT project management and technology policies and guidelines, there are organisation level policies and guidelines such as human resources, training and development and others. C1-PB’s training policy is clear that it invests in its in-house staff, not in its contingent workers.

“For a period of time, we had very intensive training for our [in-house] staff. We migrated from old technology like mainframe or traditional client/server mode computing to the latest web based platform and internet stuff [...] Training is officially available to permanent staff only” Participant C1.A.

In addition to formal training investment, through the human resources strategy, C1-PB hires skilful contingent workers with knowledge of latest technologies. In-house staff members are assigned to learn from the contingent workers. It is also a means to retain organisational knowledge. Project knowledge and new technical skills are learned and captured by in-house staff and stay with the organisation.

“This is the reason that we deploy a certain percentage of civil servant or direct contract staff onto new projects. They are there to capture the knowledge generated from projects” Participant C1.B.

On top of enforcing proper documentation and capturing project knowledge through in-house people, C1-PB requests all staff to sign non-disclosure agreements (NDAs) to prevent leakage of valuable knowledge or trade secrets. Moreover, as part of the data security measures, proper data encryption policies are implemented, and no IT staff member can access live production data. C1-PB ensures every staff member understands its policies and guidelines including new people. New people
undergo basic formal new hire orientation to understand the organisational policies and guidelines. The PMO provides orientation sessions to new IT workers. Depending on their status (contingent or in-house staff), new-comers have appropriate access rights to browse the intranet that posts all organisational and business policies and guidelines. They can acquire the necessary knowledge by reading these materials online.

Table 6.7 summarises the cognitive processes of learning in C1-PB across the three levels (individual, group and organisation).

0.0.0.4. Operational processes
Operational processes are the “continual experimentation and testing of new practices on the part of both individual employees and work groups and departments. From the perspective of the organisation, this means that the new practices become firmly established” (Järvinen & Poikela, 2006, p. 183). Learning through operational processes is about having chances to experiment with new technologies, business operations or processes. With the high demand of IT new initiatives in the past few years in C1-PB, a lot of in-house IT staff have been transferred out from support and maintenance work of existing systems to join new projects. These individuals learn new tools and technologies, new project management processes and new IT frameworks. Their understanding of the needs of business users is also renewed. Participant C1.A further sees that C1-PB has given these staff opportunities “to make mistakes” through the process of learning. Contingent workers are not given obvious learning opportunities such as those of the in-house IT workers. However, if they are good performers, their job scope will be expanded, and it may be beyond their job level. Participants C1.E and C1.F see that they are handling some project management tasks without the title. They are happy to do so as it is a form of job enrichment and opportunities to enhance their skills. Other than having opportunities to try out new tasks, individuals also learn by experimenting new rules or processes enforced by the IT group or the organisation. The technology frameworks and CMMI processes are good examples that the individual learns from these centralised standards. Moreover, in most cases, there are flexibilities given to customise these central standards and practices to experiment with new ways that one sees suitable. For example, “on the CMMI implementation, an individual project team may pick the right things to apply to the project”, said Participant C1.F.

At the group level, continuous advancement on IT project execution is driven by the PMO and TA team. The PMO periodically collects project and system statistics and metrics to look for improvement opportunities. Moreover, there is a CMMI process committee with the senior IT managers and process owners as its members. It is another structure that provides input to the PMO to further improve the existing CMMI processes and practices. The TA team also has a similar role as to drive the enforcement of technical standards and continuously seek newer technologies to fulfill business needs. They have close contacts with IT vendors to keep up their market knowledge. They
invite vendors to provide product briefings to the in-house and contingent IT technical leaders to keep
them abreast of the most recent technologies. As the PMO or TA team have decided to try out some
new processes or technologies, certain projects will be picked to experiment with them before
establishing them as new standards or guidelines.

At the organisation level, C1-PB keeps looking for operational efficiency and satisfaction of public
policies that it has committed to the Hong Kong community. Many IT initiatives in the past few years
involved strategic operational changes and some large scale automation. Business users keep learning
the new IT systems and adapting through the changes. Other than seeking improvement in IT project
management maturity through driving the CMMI processes, there are many divisional or
subdivisional objectives and key activities every year in C1-PB. They seek continuous organisational
maturity. The key activities are likely to bring in new policies such as the new regular employment
policy that was launched in 2010. C1-PB has always been one of the forerunners in examining new
practices among the HKSAR Government bureaux and departments. The CMMI implementation is a
typical example of experimenting new practices for maturity improvement; C1-PB is among the first
HKSAR Government organisation to have such certification.

Table 6.7 summarises the operational processes of learning in C1-PB across the three levels
(individual, group and organisation).

6.5.2. Achieving IT project management capability enhancement

Being a quasi-government organisation, C1-PB has more autonomy to drive its strategies and
operations. In the public sector, C1-PB is among the leading government organisations that
aggressively push IT automation for operational efficiency improvement and delivering new services
to the public. Analysing the organisational learning practices of C1-PB in Section 6.5.1 above helps
explain how C1-PB strives for continuous IT project management capabilities enhancement so as to
deliver better IT projects under the pressure of growing demand and business users’ higher IT
expectations. It is clear that C1-PB has put in a lot of effort and investment to enhance its IT project
management capability.

6.1.1.1. Cognitive processes

Similar to most public organisations, C1-PB is very strong on the cognitive learning processes. C1-PB
has clear policies and guidelines for every operation. It has programmes in place to ensure policies,
guidelines and procedures are well understood and followed by its staff. At the group level learning,
within IT projects and the IT group of C1-PB, there are stringent project management processes
(CMMI) and technical architecture standards and guideline enforcements. Dedicated resources
(including the PMO and TA team) are assigned to drive the implementation of new practices and seek
continuous improvement. At the individual level, in-house staff members have strong organisational
support to attend formal learning and development. In this learning process, contingent workers are at a disadvantage on formal training and learning. However, they have opportunities to learn the project management processes and technical standards related to their work in C1-PB. Most participants are glad to see the organisation invest on the CMMI certification. It is a well-recognised organisational investment on IT projects. Some IT workers feel excited (mentioned by Participant C1.F), and others see that C1-PB is serious about project management (mentioned by Participant C1.E). IT management participants (Participants C1.A, C1.B and C1.C) believe that it helps to improve the quality of work and retains in-house knowledge.

6.1.1.2. Operational processes
C1-PB drives for continuous advancement in its services to the public; it leads to the investment in operational learning processes. It experiments with new policies and seeks maturity improvement. It also becomes more reliant on technology as a mean to achieve the organisational goals. Therefore, IT projects and the IT group of C1-PB also actively experiment with new practices and technologies. At the individual level, independent of employment status, all IT staff members have opportunities to experiment with new practices (processes and technologies) and enjoy job enrichment. Contingent worker participants (Participants C1.D, C1.E and C1.F) have experienced expansion of job scope during the time in which they have been at C1-PB and appreciated the learning opportunities.

6.1.1.3. Reflective processes
As C1-PB seeks continuous business operational efficiency improvement, it also actively reviews the performance of business objectives and internal operational effectiveness. It has played some key roles on the reflective learning processes. Both the organisation and IT group (mainly utilising the PMO) have played proactive roles on reviewing performance of business initiatives, IT projects, and individual staff and recommending improvement actions. However, there are some areas for improvement. In C1-PB, IT project executions are guided by the CMMI standards and architecture frameworks to ensure the quality of work. Reflection tasks such as project closure reviews, architecture reviews and periodic project audits are formalised. However, the sharing of the findings is more a closed loop activity. Only the related project participants (such as the related project manager and architect) and the review parties (such as the PMO and TA team) are involved. Cross sharing relies on the central bodies (the PMO and TA team) to play the bridging role or some impersonal means (such as portals and documents). Lessons learned sharing practices within a project is also project manager dependent. Not every project manager shares bad news.

“[Sharing within a project] is not an organisational wide practice. There is no formal cross project team sharing or learning” Participant C1.D.
There is no official enforcement that different projects’ architects must group together to leverage and share. There is no formal cross project sharing” Participant C1.F.

There is a lack of formal facilitation or encouragement to have good reflective learning practices. Individual practices on reflective learning are people dependent, and formal mentoring or coaching programmes are not available to IT workers.

6.1.1.4. Social processes
Relative to the cognitive and operational learning processes, C1-PB is weak in its social learning processes. C1-PB has not invested much energy in learning through social interactions. Social learning happens mainly at the project level. Business users, IT project team members, IT vendors, project sponsors and other key parties interact and learn from one another. The depth and breadth of sharing is project manger and SITM dependent (Participants C1.D and C1.E). The key planned social learning activities are job rotation and mixing the IT workers of different backgrounds to form a new project team. The objectives are to retain the system and project knowledge among the in-house IT staff. Individual social learning practices are people dependent and rely on informal personal networks. The channels for cross project sharing or leveraging are not smooth. Cross sharing is mainly through the centralised teams such as the PMO and TA team, formal meetings or reading documents published on the intranet. However, there are more constraints for contingent workers. They may have fewer opportunities to contact the centralised bodies of knowledge, fewer occasions to join formal meetings and have less access rights than in-house IT staff to access documents on the intranet. It is also likely that they have weaker personal networks if they are new-comers. Nevertheless, requests for information from other projects can go through some formal channels.

“We can always find out who are in the projects and can contact the individuals for support. We can always go through our SITM to seek help from another SITM if necessary” Participant C1.E.

From the analysis of C1-PB’s organisational learning practices in Section 6.5.1, codified knowledge in the forms of policies, guidelines, procedures and standards (such as the CMMI processes and IT architecture frameworks) play a key role. Centralised bodies of knowledge (PMO and TA team) are critical in C1-PB’s organisational learning model. They cut across the four learning processes (social, reflective, cognitive and operational).

It may be summarised that C1-PB’s organisational learning in IT project management capability enhancement is a centralised model, relying on in-house IT staff, centralised bodies of knowledge and centralised standards and methodologies to create, capture and retain tacit and codified IT project management knowledge. It is also a model to mitigate some of the negative impacts from the contingent employment policies such as knowledge drainage and risks of heavy reliance of contingent
workers (See Section 6.4.3). The relative weak social learning processes and deficiencies found in the reflective learning processes may also be partially constituted by the come and go nature of contingent IT workers that make up half of the total IT workforce in C1-PB.

6.5.3. Achieving project and organisational success

At the beginning of the millennium, the management of C1-PB mapped out the long-term information strategy to make greater use of IT in the 2000s (see Appendix C1). A series of priority IT projects was planned and implemented to replace old systems and facilitate new business initiatives. From the learning model of C1-PB (see Section 6.5.1), C1-PB has invested heavily in organisational learning including people (such as in-house staff, PMO, and the TA team), processes (such as the CMMI) and technologies (such as various IT frameworks). The purpose is to deliver more effective IT projects and services for organisational success.

A multiple process views of IT projects from Sauer & Reich (2009) is presented in the literature survey chapter. The model values multiple ways of constructing and interpreting what IT projects are about, what is going on within them, and what techniques and approaches may be appropriate for managing them. It is a contemporary model containing six processes to interpret project management success and failure. The six processes are: action process, social process, value creation, reflective practice, project as a knowledge process and projects as an emotional process. Details of the model have been discussed in Section 3.2.3.3. For the action process, C1-PB has used the PRINCE2 methodology to further advance its project management methodology to its CMMI processes that emphasises IT project audits to help take preventive measures and encourage ongoing process improvement. From this aspect, C1-PB performs well. It takes control and monitors the project management processes. IT projects’ status have high visibility in C1-PB. In terms of social process, C1-PB has brought people from various backgrounds to form a project team to make the best use of their capabilities such as in-house business knowledge (from in-house IT staff) and external technical knowledge (from IT vendors and contingent workers). However, it has not yet built good social facilitation approaches to fully capture the potential from its resources across multiple projects (see Section 6.5.2.4). The third process is the process of value creation. The metrics and statistical data collected by the PMO of C1-PB are beyond that of the ‘iron triangle’ of project success (time, cost and quality of project outputs). There are measures regarding the efficiency improvements of business processes, productivity, cost saving measures and others. C1-PB has already put the emphasis on business benefits as the end goal of IT projects for a couple of years. The fourth process is reflective practice. C1-PB has done some organisational level and group level reflection but only focuses on the project level and is people dependent (see Section 6.5.2.3). There are areas for improvement to expand the scope of reflective practices across projects or with more formal enforcements. The fifth process is project as a knowledge process. Section 6.5.2 summarises that C1-PB’s organisational learning in IT project management capability enhancement is a centralised model relying on in-house
IT staff, centralised bodies of knowledge and centralised standards and methodologies to create, capture and retain tacit and codified IT project management knowledge. The knowledge generated from IT projects is well captured by the organisational learning model of C1-PB. Lastly, the sixth process is projects as an emotional process. In C1-PB, the human resources policy to convert direct contract staff to new regular employment terms has been well received and accepted by most direct contract staff (as per Participant C1.A); and the attrition rate of contingent IT workers has been low (as per Participants C1.A, C1.B, C1.C, C1.E and C1.F). From these two facts, it may conclude that IT workers are committed to work for C1-PB. When the six participants are asked why the attrition rate of contingent IT workers has been low, common reasons related to projects are there are ‘chances to have hands on experience with the latest technologies’ and it is ‘serious about project management’. This is about maintaining skill marketability of contingent IT workers. From these facts, the IT projects have provided an environment that improves the emotional relationship with the organisation and the projects. Of course, this is less applicable to those short-term contingent workers who do not stay on in C1-PB after project completion.

It may be concluded that C1-PB has adopted contemporary IT project management practices and culture. It has expanded its project management success metrics to beyond the traditional measures. This not only contributes to the success of IT projects and achievement of business outcomes but also to the IT industrial recognitions. In the past decade, C1-PB has received multiple awards granted by the renowned IT bodies of knowledge for its contribution to the IT sector and the Hong Kong community.
6.6. Developing and Maintaining Social Capital

6.6.1. Matrix project structure

Referring to the high-level organisation structure of C1-PB in Figure 6.2, it is organised by business function in the form of divisions and sub-divisions. The IT group of C1-PB is partially structured by business functions and partially organised by project. Nevertheless, each senior IT manager leads a team of IT resources and owns a number of IT projects. IT project teams are organised as a temporary team with the right resources pulled out from existing IT teams together with some external workforce. If the project is outsourced, the external party is an IT vendor, and its staff may work on-site at C1-PB’s premises. If the project is an internal development project, the external workforce will be the newly hired contingent workers having the necessary skills from the T-contract, ‘skill bulk’ contract or service contract. For certain large scale out-sourced projects, there may not be enough in-house staff having the right skills to lead the IT vendor to deliver the work; therefore, contingent workers will also be employed to represent C1-PB in the vendor management role. For each project, the project team is made up of people from different occupations such as project manager, architect, business analyst, systems analyst, analyst programmer, programmer, technical support and others.

Figure 6.3 is the project matrix structure of IT projects in C1-PB. It is a modified version of Barley & Kunda’s (2006 Figure 2) typical project matrix overlay. It shows that each project may draw on a mix of resources coming from different channels and occupations. At the background, there are some organisations providing such resources. They are the T-contract or ‘skill bulk’ agencies, IT vendors and service providers. These people come from numerous social networks, interact with one another
and deliver IT projects to C1-PB. The combined capability of these networks maybe more than the simple aggregation of capabilities of individuals who form the networks.

Nahapiet & Ghoshal (1998) define social capital as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (p. 243). Moreover, the literature survey chapter (see Section 3.4.6), when discussing social capital of IT projects, notes that there is a saying that IT relies on ‘outsiders’ for the completion of the projects; the core people capability may not be its retention capability but “the capacity to access, maintain and develop a highly skilled and motivated work force over time, although the individuals in it come and go” (Bredin, 2008, p. 570). In a project matrix structure, people interact horizontally (within the project), vertically (with people of similar characteristics) and diagonally (across projects).

In the context of C1-PB’s case study, three types of social networks that generate social capital are of interest to study. The first type is the ‘Horizontal project networks’. It is the social networks within a single project. The second type is the ‘Vertical people networks’. People working in the same organisation serving different projects forms their social networks according to the special characteristics of the individuals. They may group together based on similarities in the employment terms or occupations. The third type is the ‘Diagonal networks’. They facilitate cross project learning and knowledge sharing within the organisation.

The following paragraphs are going to analyse the current social networks in C1-PB and provide some suggestions to better utilise these networks so as to develop social capital for enhancing the IT project management capabilities and thus the project success of C1-PB.

6.6.2. Horizontal project networks

Whenever a new project is initiated, a group of people with or without prior encounters from different channels are quickly picked and joined together to form a project team. They cooperate and learn from one another to deliver the work. In C1-PB, a project team may be a mix of in-house, T-contract, ‘skill bulk’, IT vendor and service provider staff. The project team members provide the right mix of skills to perform the roles of an IT project such as project manager, architect, data base administrator, systems administrator, business analyst, systems analyst, analyst programmer, programmer, technical support staff, and other non-IT participants such as business users. A project team is a form of knowledge network as per Walker & Christenson (2005). They see “a project team is another form of community that is brought together for a period of time (virtually and/or physically) to address a particular challenge”; “the project team will be disbanded at the end of a project, inhibits a sense of continuing community beyond the project”; and learning within a project team is dominant at the individual level and group level (p. 287). As discussed in Section 6.5.1.1, individual learning and
group learning in the social learning processes are individual, project manager or SITM dependent. There is no formal coaching or mentoring in C1-PB. New-comers are initially taken care of by some existing staff but not throughout the whole project duration. Today, most of the social learning is informal, people dependent or a one-off practice only. However, people within a project team are those who meet one another and interact frequently on daily basis. Social networks naturally exist, and they provide a favorable environment to build the social capital of C1-PB. Some participants of this case study have quoted some good practices that enhance the project level social learning such as:

“Good and bad things are shared at project team meetings. It may be more of my own practice and self initiative” Participant C1.D.

“The most effective way was what the project manager pushed new-comers to do – presented what we knew. For new-comers, the project manager might set a timeline say half a month. After that, the new-comers presented what they learned about the job. By then, the project manager knew how much had been picked up [...] I see this is a good way to push a new-comer and be sure he or she really picks up the work” Participant C1.E.

“We might develop some slides to present what certain technology was about and share the understanding” Participant C1.E.

It is likely there are many good social practices within C1-PB that can improve project management capabilities within the project level. If such best practices can be made available to other projects, more social capital will be accumulated. Moreover, more people practising certain social practices over time can be transformed into a formal process to increase C1-PB’s cognitive knowledge.

### 6.6.3. Vertical people networks

In most IT projects in C1-PB, project team members are from the existing in-house resource pool and external intermediaries (agencies, IT vendors and service providers). IT workers usually identified themselves as a combination of their employment status and occupation such as a direct contract project manager, a contract systems analyst and others. Table 6.8 below illustrates the IT workers’ categorisation by employment status and occupation in C1-PB.

<table>
<thead>
<tr>
<th>Occupation 1</th>
<th>Occupation 2</th>
<th>Occupation m</th>
<th>Occupation n</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-house staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingent staff</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In-house staff may know one another before joining a new project. They are familiar with one another and have a long-term relationship with C1-PB. They have their own social networks at work and at leisure. Another group of IT people work in C1-PB for the duration of a project or a task. They are hired through intermediaries (such as agencies, IT vendors or service providers) and come to work temporarily as contingent workers in C1-PB. They may not know one another before joining a new project. They get to know one another as they are assigned to the same project; through the introduction by other contingent IT workers of different projects; through the introduction by some external contingent IT workers who know some people working in C1-PB; or they get to know one another at some gathering organised by their intermediaries. They may form another set of social networks informally. From information collected from the six participants, social networks that informally group people by employment terms are mainly for the purpose of improving the employment arrangement, salary and remuneration packages. An example is direct contract staff who collectively revealed their expectations to management of C1-PB and successfully obtained the new regular employment terms. Another example is contingent IT workers forming informal social networks to collect ‘insider news’ regarding the latest contingent employment package of their job levels; successful cases on fighting for benefits; reputations of agencies; or C1-PB projects having budgets for hiring contingent IT workers. Participant C1.D’s quote below is a typical situation that shows the contingent workers need to network together.

“[T-contract workers] depend on their personal network to collect reliable data [to fight for better pay], [...] networking with those in the same ‘market segment’ is pretty important to be a T-contractor” Participant C1.D.

Hopefully, more can be gained from these social networks. Within the in-house staff, there are a few employment arrangements. There are civil servants, regular employment staff and direct contract staff. Civil servants are employed by the OGCIO, not C1-PB. They have contacts with other civil servants. They have a network beyond the organisational boundary. Government practices and knowledge gained in other HKSAR Government departments may be shared from this channel. Regular employment staff and direct contract staff normally are experienced IT professionals with previous working experience. Their social networks with the external world may bring new insights to C1-PB. The network of contingent staff may be a volatile one. The mobility of this group of staff is definitely higher than that of the in-house staff. They bring in knowledge, contribute to the projects and leave for better opportunities. If the network of contingent workers includes all those who have worked for C1-PB over the years, it will be a huge network. All sorts of skills can be found if the profiles of all these people are captured. C1-PB may identify the required experts from this network and try to get them back to work of C1-PB. This group of people not only has the expertise but also the experience of working in C1-PB. They are a valuable source of human capital to C1-PB.
From another perspective, people may be networked from the occupation perspective instead of the employment relationship perspective. For example, a project manager is likely to link up with other project managers of C1-PB to share issues or seek advice. Social networks are likely to be formed by the occupation or professional of the IT workers as similar types of people talk their own language. Scholars have found that IT professionals’ loyalty is owed less to their employer than it is to their career (Gregory, 2001), and they prefer to identify themselves by their work-related identities as certain IT specialists (Loogma et al., 2004). In the interviews of the six participants, they have not mentioned much about social networks by occupation. However, some of them (Participants C1.D and C1.E) mentioned that they would seek help from others who have experience doing the task that needs support. In this way, people working on similar occupations in C1-PB network informally. Social networks organised informally by occupation may be more likely to share and develop capabilities. It is similar to the Community of Practice (CoP) as identified by Walker & Christenson (2005). It is about a group of people informally bound together by shared expertise. With time, some organisations may impose a more formal structure to capitalise the knowledge gained at the CoPs. Today, C1-PB does not have occupational social networks, except some small groups of personal networks. However, it may be something that C1-PB may consider later. For some important skills, C1-PB relies on contingent workers to deliver the work. If some CoPs can be formed with the focus on these key skills, in-house and external experts can be grouped together to accumulate the knowledge of the key skills across multiple projects. Moreover, as contingent workers come and go, new knowledge continues to be injected into the CoPs. Those who left C1-PB and worked for other organisations gain new experience. If the CoPs keep in contact with ex-workers of C1-PB, they gain new insights from the external world and can share with the colleagues who still work in C1-PB. Moreover, when C1-PB needs to look for experts who have the skills to join the new projects, these ex-workers are the potential candidates. Even if the identified candidate is unable to re-join C1-PB, he or she may be able to introduce a candidate with similar capabilities from his or her personal networks. Other than the benefits from the people network, as in-house staff members also participate in these CoPs, they can ensure the knowledge is captured and internalised to be the organisational knowledge. This is similar to the view of MacDougall & Hurst (2005) that in-house and external contingent workers cross fertilise and build new private knowledge.

6.6.4. Diagonal networks

Under the diagonal network category, there may be knowledge networks across multiple projects. Within C1-PB, there is the formal organisation structure to promote best practices of project management. The PMO is representative of such a structure. By the definition of Walker & Christenson (2005), the PMO established in C1-PB is similar to the corporate project management office (CPO).
“[..] the corporate project management office (CPO) that services the entire company and focuses on strategic and corporate activities to coordinate and improve project management within the entire organisation. This[..] form of project office (PO)[..] creates an environment to deliver a continuous stream of successfully managed projects – success is measured by having achieved performance that is in the best interest of the whole company as well as the specific project” (Walker & Christenson, 2005, p. 283).

In addition to promoting IT project management excellence, C1-PB also structures the TA team to promote technology excellence. Both structures are centralised and establish formal and impose standards, guidelines and governance structures across multiple projects. They officially group people of project management, quality and technical architectural backgrounds to contribute their knowledge to C1-PB. The participants of the PMO and TA team activities are on a part-time basis but are members of the official social networks that encourage knowledge sharing and cross-project learning. Today, most of the exchange of knowledge is via the full-time members of the PMO and TA team. There are no formal forums or virtual networks that connect the part-time participants. However, there may be communications among these participants through their personal networks. In order to better utilise these existing formal social networks, C1-PB may consider ways to facilitate the members’ learning by setting up some forums, providing virtual social network platforms or setting up social enterprise networks. This may allow a more free flow of knowledge and cross project collaborations. Formal mentoring and coaching programmes may provide more direct help to grow the project management and technical capabilities of the PMO and TA team part-time members. These social networks may stimulate more cross project learning and enhance C1-PB’s project management capabilities.

In summary, today C1-PB has informal horizontal and vertical social networks and formal diagonal social networks that facilitate social capital development and cross learning. There are areas for improvement that C1-PB can use to better capitalise the benefits of social networks. Horizontally, C1-PB may consider providing some facilitation such that best practices of social learning processes at the project level can be shared and learned across projects. Vertically, staff coming from different employment terms and occupations have their social networks with ‘colleagues’ of similar backgrounds; such networks are good sources to connect the inside and outside world to gain expert knowledge and even human capital. C1-PB may encourage the establishment of some communities of practices (CoPs) in areas in which it has demands for key IT skills. Diagonally, C1-PB has formal structures such as the PMO and TA team. C1-PB may consider further expanding these platforms to allow a more free flow of knowledge and cross project collaborations. These are possible actions to improve the social learning processes (see Section 6.5.1) that enhance the IT project management capabilities of C1-PB.
6.7. Learning Beyond Organisational Boundary

6.7.1. Matrixed economy

In the literature chapter, Barley & Kunda’s (2006) matrixed economy has been mentioned (see Section 3.3.1.1). They described the matrixed economy as one where “firms become the loci for a set of projects and occupations become the nexus for accumulating, developing, and disseminating knowledge. Firms access occupational knowledge through temporary employment relationships” (p. 59). Barley & Kunda (2006) further state that “a matrixed economy cannot operate without some form of occupational organising” (p. 59). This form of organisation is like the “intermediaries from the supply-sided view” described by Benner (2002c). They are rooted in the membership of individual employees such as professional associations, guilds and guild-like associations and various union initiatives. Figure 6.4 below illustrates Hong Kong’s matrixed economy in the IT sector. Within C1-PB, there is no clear form of occupational organisation. In the Hong Kong community, there are ‘Professional Associations’ but not ‘Guild Type Unions’ or ‘Unions’ as described by Benner (2002c). Members of IT professional associations in Hong Kong (see also Section 2.4.6.2) mainly benefit from information, networking opportunities, linking employers and employees in occupations, and skill or industry guidance provided by the professional associations. Some professional associations may provide training, salary survey information or career centre services. However, these associations normally do not empower workers negotiation capabilities nor actively play a direct role in advocating for their members in legislations or corporate campaigns. Today, it appears there are not any industrial bodies in Hong Kong representing the benefits of contingent IT workers. Hong Kong employers such as C1-PB have widely adopted contingent employment as its human resources strategy, but it is not yet mature enough to be described as operating in a matrixed economy. This is, in fact the view of Participants C1.A, C1.C, C1.D and C1.F that “IT [is] not yet a profession in Hong Kong” (see Section 6.4.5.2). Employers today do not hire “occupational knowledge through temporary employment relationships” (Barley & Kunda, 2006, p. 59) but only by person days.
6.7.2. Contingent workers and intermediaries

Hong Kong may not have IT occupational organisations to provide occupation knowledge professionals to organisations, but it has many different forms of intermediaries developing or supplying IT resources to employing organisations (see Figure 6.4 above). Taking C1-PB as an example, four types of intermediaries have relationships with C1-PB. They are the OGCIO; human resources agencies; IT vendors or services providers; and industrial bodies such as industrial professional associations, certification bodies, universities and training institutions.

The first type of intermediary is the OGCIO. It provides leadership for the development of ICT within and outside the HKSAR Government. It provides a single focal point with responsibility for ICT policies, strategies and programmes. HKSAR Government bureaux and departments such as C1-PB need to follow and comply with these policies, strategies and programmes. In addition, the OGCIO provides IT services and support within the HKSAR Government. It deploys government IT staff (civil servants) to serve different government bureaux and departments. It has also engaged contingent staff services through the use of term ‘body-shopping’ contracts (T-contracts) to cope with the significant IT demand and workload. The second and third types of intermediaries (human resources agencies and IT vendors or service suppliers) supply the IT workers and services to C1-PB. These organisations know who serves C1-PB on which projects, and they are aware who gets which part of the business from C1-PB. They are both competitors and partners of one another. They compete for business but also partner to deliver work to C1-PB. Multiple agencies, service providers and IT vendors may be employed to provide resources or services to serve the same project. The performance of this group of third parties is essential to the success of C1-PB’s IT projects. Within this group,
resources of IT vendors and service suppliers are not supervised by C1-PB. They deliver project outcomes to C1-PB. C1-PB only needs to care about the resources supplied by the agencies. The fourth type of intermediary is IT-related industrial bodies. They include industrial professional associations, certification bodies, universities and training institutions. They are third parties that affect the supply of IT professionals to employers like C1-PB. They train, develop and assess professional qualifications of IT professionals supplied to the Hong Kong job market.

6.1.1.1. OGCIO
The OGCIO is the central government body that houses all the IT staff under the civil servant employment. They are deployed to work in different bureaux and government departments such as C1-PB. Every few years, they will be rotated to work in different bureaux and government departments. They are trained on the standards and guidelines that should be compliant by all government IT projects. These standards and guidelines include project management methodologies and technology frameworks. Through the civil servants, such knowledge is brought to C1-PB. Over time, they are enhanced and applied based on C1-PB’s characteristics and form their own standards and guidelines. For example “the CMMI [applied in C1-PB] is an enhanced version of PRINCE2 [which is the standard from OGCIO]” said Participant C1.C. C1-PB also follows the same principle and opens up its standards. It is one of the ways to increase the IT project management capability of the Hong Kong IT community.

“As we open our standards, more IT people know our requirements, and we have more resource choices. Our knowledge flows in and out. We learn from contingent workers or vendors who work for us, while we modify or build our processes and share these with the outside world” Participant C1.A.

Another key role played by the OGCIO is the central administrator of the T-contract. The OGCIO has taken the lead to drive the contingent employment policy of IT workers among bureaux and government departments; it also plays the role to guide bureaux and government departments how to manage contingent workforce. Over the years, the OGCIO learned from issues associated with the T-contract and has imposed some changes in every new T-contract. In the most recent T22 contract, the contingent workers should have paid sick leave and annual leave, and the employing organisation should not continue to extend a contingent worker’s contract beyond a certain accumulated dollar value (mentioned by Participants C1.A, C1.B, C1.C and C1.D). The former change is to enhance the benefits of contingent IT workers. The latter one avoids the bureaux and government departments to take the risk of renewing the same contingent staff for a prolonged period of time. Long-term contracting violates the principles of T-contract that is intended for short-term purposes only. However, this may potentially disappoint some contingent IT staff. They see the T-contract of the HKSAR Government as stable and predictable, which is a major benefit of being contingently
employed on the T-contract (see Table 6.6). Rules and policies related to contingent IT workforce management such as training investment principles, promotion of contingent workers within the T-contract arrangement have basically originated from the OGCIO. The negative impacts identified in Section 6.4 may partially be resolved if the OGCIO considers enhancing some of its rules and policies on managing contingent IT workers from the T-contracts. The major concerns expressed by participants of this case study are ‘Investment on capability development’ (Participants C1.D, C1.E and C1.F) and ‘A normal promotional path’ within the T-contract arrangement and a path to transfer to the direct contract path (Participants C1.B, C1.D, C1.E and C1.F). Of course, better remuneration packages are also every contingent worker’s expectation.

From the social capital development perspective, the OGCIO seems to have facilitated the networking among the civil servant circle or direct contract IT professionals above certain job levels. These people may be invited to join formal meetings, forums or gatherings organised by OGCIO (or the IT Management Unit under the OGCIO). None of the participants have mentioned if there are open platform, forums or social networks for IT workers serving the HKSAR Government to cross learn from one another. The HKSAR Government, as the major employer of Hong Kong IT workers, especially contingent IT workers, with any imposed rules and guidelines changes the lives of these people. Moreover, it is also natural that the private organisations will refer to similar principles to manage their IT workforce so as to maintain the competitiveness in competing for talent in the IT job market. From this perspective, the OGCIO has influence on the life of almost all IT professionals in the Hong Kong community.

6.1.1.2. Human resources agencies

Among the various intermediaries, the human resources agency is the one mentioned the most by the six participants of this case study. C1-PB has half of its IT workforce employed by human resources agencies. They should play a key role in C1-PB’s projects. The reality is the reverse. The human resources agencies play a passive role in the triangular network relationship of the employing organisation, agency and contingent worker. All the six participants see contingent IT workers are exploited by the agencies and only have transactional relationships with them. This is the second negative impact from the contingent workers’ perspective on contingent employment (see Section 6.4.4). Moreover, agencies have played a limited role in terms of increasing the contingent workers’ capabilities or developing their careers. Participants C1.A, C1.C, C1.D and C1.F have expressed concern about the little investment in the employee’s training and development made by the agencies. Even the half-day per month training as part of the contractual obligation may not be delivered by the agencies or has been exchanged into cash and paid to the contingent workers. Furthermore, contingent workers have formal employer-employee relationship with the agencies, but there are limited communications. There is no sense of belonging. ‘Colleagues’ from the same agency do not know one another. Participant C1.F has such experience, he said, “Every year, an agency may arrange one to
two parties. However, nobody knows anybody there”. Participants C1.B, C1.E and C1.F have doubts of its value for the fees the agencies charged.

“In the wave of dis-intermediation, the role, value-for-money and actual function of these agencies are big questions” Participant C1.B.

“Today, the agencies’ practices are continuously advertising vacancy advertisements, collecting a lot of CVs from the market, checking which organisations are looking for people and sending the CVs to the organisations” Participant C1.E.

“Once the candidate is employed, there is nothing to do but pay the salary during the whole employment period” Participant C1.F.

The situation may be explained by Barley & Kunda’s (2004a) finding regarding the culture of work agencies. Hong Kong’s agencies are likely to revolve around a sales culture. Agents’ compensation is tightly linked to their sales performance. A lot of time, the agents do not have technical knowledge to understand the capabilities of the candidates or the requirements of the employing organisation (Barley & Kunda, 2004a, p. 76). This is similar to how Participant C1.C believes that that most of the agencies care only about financial return on investment. The study of Barley & Kunda (2004a) suggests that there are other agencies that have a technical culture and greater appreciation of its people. They concluded that “Good agencies [...] instituted and enforced procedures for selecting [contingent workers] and for testing their skills and checking references. They invested in training to enhance the technical sophistication of their agents. They maintained contact with [contingent workers] already placed on the job. The very best, as far as [contingent workers] were concerned, offered benefit packages, some technical or professional training [...]”(p. 91).

Today, the performance of Hong Kong’s agencies is such that contingent workers see that joining any agency does not matter. They always work alone at the employing organisations’ premises. Practically, contingent workers do not have an organisation to take care of their training and career development. No one invites contingent workers to join social networks that group them together to learn the marketable skills that are essential to their survival. Practically, the human resources agencies may be the appropriate parties to coordinate some form of social networks for contingent workers. They may organise some networking sessions to let people get to know who’s who or set up virtual communities to share knowledge and issues among the ‘colleagues’ of the same agency working for geographically-distributed clients. This will definitely expand the social networks and may develop better social capital for the individual contingent workers, the agencies and the employing organisation. Barley & Kunda (2004a) have offered some examples of what some of the better agencies have done. Some of the examples are: some agents visit contingent workers in the
field every week (p. 80) and agency “tested and rated every [contingent worker]; [...] ran training programmes for firm’s [contingent workers] and formally documented the growth of [contingent worker’s] technical ability; [...] [maintained] a cutting-edge computer laboratory where [contingent workers] could hone existing skills, learn new ones and practice with new hardware and software; [...] offered seminars for their [contingent workers] and the larger technical community” (p. 81).

Participant C1.C also sees that employing organisation like C1-PB can do more to push the agencies to provide more training and career development to their contingent workers.

“[...] as an employer, we can do something. When we award the contract, if the agencies have certain business on project manager, systems analyst or programmer level services, they should provide some training to those staff who they supplied to the employer. Both hard and soft skills should be provided. This is what employers can do and add those terms in the contract” Participant C1.C.

6.1.1.3. IT vendors and services providers

IT vendors and services providers also play a major role in C1-PB. It is estimated that over 50% of the system maintenance and development work of C1-PB are outsourced to IT vendors or services providers as per Participants C1.B and C1.C. Participants of the case study have not mentioned much regarding the role of these organisations. Partially this is because they are not the focus of the research questions and partially because they are selected to deliver the outcomes, and the IT group of C1-PB mainly represents the organisation to manage these vendors’ performance. However, IT vendors or service providers have played some roles in terms of advancing the IT project management capabilities of C1-PB.

When new-comers (including contingent workers) join an IT project that involves IT vendors that supply certain technologies or solutions, they may ask the IT vendors to provide details of the project and the products. On a day-to-day basis, IT vendors also provide free product briefings or demonstrations to various IT project teams of C1-PB with the alignment from the TA team. These training opportunities also apply to contingent IT workers of C1-PB. Another way that IT vendors may indirectly bring in new capabilities to C1-PB is their ex-employees who have worked on C1-PB’s outsourced projects and are hired by C1-PB. Participant C1.D is an example. She used to work for an IT vendor. However, as most of the time she worked on-site at C1-PB under different out-sourced projects or services contracts. She finally joined C1-PB as a direct contract staff. With this channel, C1-PB can hire staff with both C1-PB organisation knowledge and proven performance on the job. Furthermore, Participants C1.D, C1.E and C1.F agree that it is more difficult to be employees or contingent workers of IT vendors because there is extreme pressure to deliver the work to C1-PB under fixed time, fixed price, fixed scope, and stringent process and quality compliance requirements. IT vendors’ ex-employees gained experience through C1-PB’s out-sourced projects and are valuable
knowledgeable workers to C1-PB. From the other side, IT vendors and service suppliers learn the project management processes, architectural frameworks and other government imposed rules and guidelines through participating on C1-PB’s IT projects and services. This is valuable knowledge and experience to win other government IT projects.

6.1.1.4. Industrial bodies

Section 2.4.6 has mentioned that Hong Kong has numerous IT-related industrial bodies. It is common that they deliver professional training, development programmes, seminars, conferences or networking forums to IT practitioners to create IT talent for the Hong Kong community. Some of them even have professional certification programmes to accredit the qualification of IT professionals.

Participants of this case study do not mention much about their participation in Hong Kong’s IT industrial bodies. However, it is understood that some managers at and above the senior IT manager level have been actively participated in some IT professional associations. C1-PB is also an active organisation participating in industrial award competitions to demonstrate its support to the IT sector. Participant C1.D obtained her PMP® credential when she was the permanent employee of an IT vendor, and she is a member of the PMI Hong Kong chapter. For recruiting IT staff, candidates with formal training or official professional certifications do not have any specific advantages. Participants C1.A, C1.B and C1.D see training and qualification do not guarantee performance, and they are something nice to have but are not mandatory. From a training perspective, C1-PB seeks some training institutions to provide soft skill trainings such as team building to their in-house staff. Overall, the influence of industrial bodies on C1-PB’s organisational learning seems to be indirect and limited.

In summary, the OGCIO’s role directly influences C1-PB’s IT resource management and organisational learning model of C1-PB. The contingent employment strategy can be further improved if OGCIO’s rules and policies can reduce some of the negative impacts of contingent employment. The human resource agency is the most concerned intermediary by participants of this case study. Its role on advancing IT project management capability and supporting the career development of contingent workers is invisible today. However, agencies employ a significant portion of IT workforce of C1-PB, their active role on learning and career development will make a difference. IT vendors and service providers mainly play the knowledge supplier role especially for technological knowledge. They may learn the government practices through participating on C1-PB’s projects and services. Industrial bodies play a less significant role in C1-PB’s organisational learning although they also prefer to hire IT professionals having gone through formal training or with formal qualifications.
6.8. **Case Study One Conclusions and Summary**

This thesis investigates the impacts of contingent employment in large Hong Kong organisations upon IT project management capabilities enhancement. This case study of C1-PB is a candidate representing a large Hong Kong public organisation that employs about 8,000 staff with about 170 of them are in-house IT professionals. On average, C1-PB hires 50% of its IT workforce through human resources agencies as body-shop contracts. It also outsources about half of its IT work or projects to IT vendors and service providers. Therefore, C1-PB’s IT projects and IT operations significantly rely on contingent IT workers and out-sourcing organisations. Its contingent employment practices have posed positive and negative impacts to the organisation and to the contingent IT workers. They also impact a broader scope beyond C1-PB as contingent workers come and go from the IT job market. The views of the six participants of this case study on impacts of contingent employment in C1-PB are summarised in Table 6.6 above.

In the contingent employment contexts, C1-PB invests heavily to enhance its IT project management capabilities and retain the organisational knowledge to mitigate some of the negatives impacts caused by its human resources strategies. Table 6.7 summaries the three-level, four-process organisation learning model of C1-PB. It has relative strong cognitive and operational learning processes but weak social and reflective learning processes. The organisation learning practices in C1-PB in IT project management capability advancement is a centralised model, relying on in-house IT staff (civil servants, regular employment staff and direct contract staff), centralised bodies of knowledge (the PMO and TA team) and centralised standards and methodologies (the CMMI and IT architecture frameworks) to create, capture and retain tacit and codified IT project management knowledge. The model mitigates some of the negative impacts from the human resources strategies but not all. Comparing C1-PB’s project management practices with contemporary project management research, it has implemented a relative advanced project management methodology and culture and has expanded its project management metrics to ones beyond the traditional measures. This not only contributes to the success of IT projects and achievement of business outcomes but also to be recognised by the Hong Kong IT industry.

Of course, no practices are perfect. C1-PB has not fully utilised its potential to advance its IT project management capabilities for further success. There is room for improvement on social learning processes and building social capital. C1-PB may consider facilitating more cross-project learning. It may also consider better utilising the contingent worker and in-house staff networks as sources to connect the inside and outside world so as to gain expert knowledge and even enhance human capital. C1-PB may encourage the establishment of some communities of practices (CoPs) in arenas of demand such as for key IT skills. They are useful sources to look for human resources with the right skills and organisational knowledge of C1-PB. C1-PB may consider expanding the roles of the PMO and TA team by providing platforms that allow more free flow of knowledge and cross-project
collaborations. Moreover, C1-PB cannot work alone to enhance its IT project management capability under contingent employment practices. It continues to exchange IT human capital with the Hong Kong IT job market. As a public organisation, its human resources polices are also bounded by the rules and guidelines set by the OGCIO. Therefore, the OGCIO’s role directly influences C1-PB’s IT human resources management and organisational learning models. The contingent employment strategy can be further improved if the OGCIO’s rules and policies can reduce some of the negative impacts of contingent employment. Other intermediaries also play a role as they develop and provide the human resources to C1-PB. The human resources agency is the most concerned intermediary by participants of this case study. The agencies supply 50% of the IT workforce of C1-PB but play a limited role in advancing IT project management capability and supporting the career development of their contingent workers. Their active role on learning and career development will make a difference. IT vendors, service providers and IT industrial bodies play a less significant role in C1-PB’s organisational learning. However, their capability to develop high quality IT professionals affects C1-PB’s IT project success because they deliver half of C1-PB’s IT projects and IT work.
Chapter 7 - Case Study Two Analysis

7.1. Introduction

This chapter presents the case study analysis of the second case study organisation. It is a typical large IT and communications services organisation (VTC, 2010) and is a major employer of IT staff in Hong Kong. Its parent company is a leading global provider of IT products, technologies, software, solutions and services with a few hundred thousand staff worldwide. The case study two organisation is the Hong Kong office of this global corporation. In this thesis, it is referred to as C2-VD. Its IT services business unit, a project-based business unit, was selected to study C2-VD’s contingent employment of IT workers and its IT project management practices. It hires a significant number of contingent IT professionals, and all work on client projects; and its customers are large Hong Kong enterprises of various business sectors.

When this case study’s interviews were conducted in late 2009, C2-VD employed almost 1,000 employees (excluding contingent workers). Its IT services business unit had about 200 IT staff; 50 of them were permanently employed, and the others were contingently employed. The ratio of contingent workers to total IT workers in this business unit was around 75%. This case study has obtained sponsorship and support from the management representatives of the C2-VD IT services business unit. Three of six case study participants are management representatives (one senior manager, one project director and one operation manager). They in turn introduced three other participants including two project managers and one resource & knowledge management lead to support this research. In addition, a list of research triangulation documents (see Appendix C2) has been reviewed. The findings presented below are according to the analysis outcome from the input of six participants from C2-VD and the documents listed in Appendix C2. The six participants are referred to as Participant C2.A, Participant C2.B, Participant C2.C, Participant C2.D, Participant C2.E and Participant C2.F in this thesis.

6.1.1. The case study report

This case study report consists of eight sections and the structure follows the common eight-section case study report structure (see Section 4.4.1). Figure 7.1 below lists the table of contents of this report and its structure for easy reference.
6.1.2. The case study organisation

This section introduces the background of the case study organisation and the major events that have impacts on its project management practices. The data source of this section comes from the reference list shown in Appendix C2, and the interview data supplied by the six participants of this case study. Due to the confidentially agreement with the case study organisation that its identity remains anonymous in this research, the exact data source cannot be disclosed.

C2-VD’s parent company has over 50 years of history and is one of the largest IT product and services providers globally. C2-VD has been established in Hong Kong for over 30 years from the late 1970s. C2-VD began with a few staff, and over the years expanded to almost 1,000 staff in Hong Kong. It is now a major IT and communications services provider in the Hong Kong community. By late 2009, it had seven major business segments following the global organisation structure. Four of the seven business segments were IT product focused, the fifth one was services focused, the sixth one was the financial services and seventh one was the corporate investment segment. The local executives of the seven business segments report to the global executive team headed by the board of directors. There is a local person in Hong Kong who has the managing director position to drive local
The IT services business unit help clients revitalise and manage their IT assets through flexible, project-based, consulting services and longer-term outsourcing contracts. Its customers include the government and commercial organisations (refer to Appendix C2). Its projects may include visible Hong Kong community IT projects or be part of a mega-size global project. This business unit has two pools of resources. One pool takes care of pre-sales activities, and the other is responsible for all project delivery. The second pool is a large pool including all the contingent workers. It is organised by practices. Each practice is specialised in a particular technology or business domain; each may have one or a few senior permanent staff in the project director role. A delivery project is owned by one of the practices under a project director. However, resources may be drawn from other practices.
to support the project in a matrix structure form. On top of these two pools, there is a small business operation team in this business unit. The roles of the business operation team include finance management, resource management (RM), knowledge management (KM), quality management, and project pre-sales and delivery assurance. By late 2009, the total number of IT staff of the IT services business unit was about 200. The ratio of permanent workers to contingent IT workers on average was 25% (50 staff) to 75% (150 staff). The ratio of stable contingent workers to unstable ones was approximately 40% (60 staff) to 60% (90 staff) (information from the resource manager – Participant C1.B). A stable worker is defined as one who has stayed with the business unit for over three years. Beyond the teams within the business unit, there are corporate level roles such as the PMO that guide and monitor major bids and project delivery across business units in the services business segment (see Figure 7.2).

C2-VD’s parent company has faced vigorous market competition and price pressure on its products and services in the past decade when the IT industry has faced global challenges such as the dot com era, the global finance crisis and the recent European debt crisis. This can be revealed from the long list of risk items in annual reports (see Appendix C2). In recent annual reports, the majority of risk items stated that these impacts were financial related. Impacts might be exerted through cost, expenses, gross margin, net earning, profit, revenue, stock price, financial condition or financial result. One of the strategies initiated from the beginning of the millennium to survive competition is to drive for operational efficiency through numerous mergers and acquisitions. Two major merger and acquisitions happened in the last decade. By the time the research interviews were conducted the workforce restructuring for the second major merger and acquisition was in progress and would continue for another year. The parent company expected to achieve cost savings and other benefits from its multi-year operational efficiency programme initiated by this second major merger and acquisition. In its 2009 and 2010 annual reports (see Appendix C2) they stated that “there are significant risks associated with our workforce restructuring programmes, including […] decreases in employee morale, and the failure to meet operational targets due to the loss of employees”. Under the corporate strategy on operational efficiency, its worldwide business offices including C2-VD have also undergone continuous organisational and workforce restructuring. The situation of the Hong Kong IT services market is similar to the global environment. After the millennium, the IT services market faced intense competition in all facets. The market has been under significant pressure as customers continue reducing their IT budgets (see Section 2.2.2). However, this trend has benefited the outsourcing services business as customers drive toward lower IT management costs to enable more strategic investments. The IT services business unit of C2-VD has therefore gone through changes driven by both the external market situation and the internal corporate strategies. The case study participants have provided insight on how they operate to deliver satisfactory IT project services to customers while fulfilling the corporate operational efficiency measures.
6.1.3. The case study participants

In this case study, six participants were interviewed in total. All participants are actively involved in IT project management activities in their day-to-day work. Participants C2.A, C2.C and C2.E have managerial roles in C2-VD. They are the senior manager, project director and operation manager of C2-VD’s IT services business unit respectively. Participants C2.D (contingently employed) and C2.F (permanently employed) are project managers. The last participant is Participant C2.B. She is a member of the business operation team in charge of resource management and knowledge management. The demographics of the six participants of case study two are summarised in Table 7.1 below.

Table 7.1: Demographic summary of case study two participants

<table>
<thead>
<tr>
<th>Number of participants</th>
<th>Six</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current roles in C2-VD</td>
<td>One senior manager (permanent worker), One project director (permanent worker), One project manager (changed from contingent to permanent worker), One project manager (contingent worker), One operation manager (permanent worker), One resource &amp; knowledge management lead (changed from contingent to permanent worker)</td>
</tr>
<tr>
<td>Years of services in current position</td>
<td>Two to nine years (average: five and a half years)</td>
</tr>
<tr>
<td>Years of services in C2-VD</td>
<td>Six years to 18 years (average: 10 years)</td>
</tr>
<tr>
<td>Average number of years worked on contingent employment terms</td>
<td>Four years</td>
</tr>
<tr>
<td>Years of IT industry experience</td>
<td>10 years to 21 years (average: 15.9 years)</td>
</tr>
<tr>
<td>Highest education level</td>
<td>Two masters and four undergraduates</td>
</tr>
<tr>
<td>Formal project management qualification</td>
<td>One PMP® + two trained for the PMP® examination</td>
</tr>
</tbody>
</table>

The participants’ duration of services in the current role ranged from two to nine years, with the average of five and a half years. They had worked in C2-VD from six years to 18 years, with an average of 10 years. Among the six participants, Participants C2.A and C2.E had no contingent employment history; Participants C2.B and C2.C had relative short contingent employment history (two years and one year respectively); and Participants C2.D and C2.F had 12 years and seven years contingent employment history respectively. Both Participants C2.D and C2.F had over 50% of their IT working experiences were under contingent employment. The average contingent employment experience of the four participants (Participants C1.B, C2.C, C2.D and C2.F) was four years. Regarding the years of working experience in the IT sector, all participants had over 10 years of IT
working experience with three of them having more than 20 years of experience. The average was 15.9 years. All participants except the two from the business operation team (Participants C2.B and C2.E) began their career in the IT field. Three of them had done some programming work, application development projects, or systems analyst roles before moving onto project management roles; the fourth one started as a systems engineer and also an architect role before moving onto a management role. Participants C2.B and C1.E began their career in their own specialities – human resources management and finance management respectively with most of their working experience from the Hong Kong IT sector. The educational background of all participants, was undergraduate or above level and one of them has acquired formal project management qualification as a PMP® credential from the PMI. Two others have gone through the training and are prepared to sit for the PMP® test. All participants except Participant C2.B had completed some form of in-house project management training provided by their current or former employers.

6.2. **Contingent Employment Policies and Practices**

6.1.1. **Market driven human resource strategy**

Hong Kong’s CIOs face tremendous cost pressure (see Section 2.2.2.1), and they tend to outsource more work to IT services providers such as C2-VD (see Section 2.3.2) as a way to manage their costs. Thus, Participants C2.B, C2.C, C2.E and C2.F express that C2-VD’s customers continue to optimise the cost of IT projects through outsourcing.

“In a lot of [IT project pre-sales] cases, technical skill is not the determinant factor. The price to technical skill ratio in a bid selection may be 7:3. That means [it] must win by price” Participant C2.B.

“Our customers now look for better and more efficient ways to manage their IT budget. ‘Cost saving’ is key in all IT projects” Participant C2.C.

“Customers are paying less and less [...] we need to cut cost” Participant C2.E.

Externally, C2-VD has to look for ways to reduce its cost to maintain competitive as its customers look for ways to efficiently utilise their IT budgets. Internally, the parent company of C2-VD is highly conscious of the financial outcomes (see Section 7.1.2). Each business unit in each business segment is subject to multiple financial measurements. These factors have driven the IT services business unit to be cost conscious. Its major business is to provide application development, testing, system integration, maintenance and management services in the form of projects. In most cases, the project teams stay on-site at customer premises utilising materials (hardware and software) purchased through C2-VD or supplied by the customers. Therefore, a significant portion of a project’s cost results from
hiring the ‘people’. In such a situation, the C2-VD has to deal with the human resources cost of client IT projects in order to win the external competition and fulfill the internal financial measures.

6.1.2. Resource strategy at the organisational level

The corporate human resources strategy is executed by the local HR department of C2-VD. The focus is on hiring and deploying permanent employees including the workforce restructuring programmes consistent with the corporate operational efficiency strategy (see Section 7.1.2 above). According to Participants C2.B, C2.C and C2.E, HR is the gatekeeper of the permanent and direct contract staff headcount. Participants C2.A and C2.B stated that HR also imposed corporate contingent workforce policies such as selection of agencies and debarment of ex-permanent staff to work as contingent staff shortly after leaving the organisation. HR is not involved in the daily hiring and management of contingent workers; the service contract arrangement with agencies is handled by the service procurement department with decisions on service content and terms and conditions owned by the hiring business unit. Contingent workforce management at the execution level are business unit dependent and may change according to the internal and external market situations.

“There is no formal or complete system of managing contingent workers. With time, there are some [...] new policies to manage our contingent workforce” Participant C2.B.

“Our HR will only takes care of direct contract staff hired [...] Other agency contracts are owned by the procurement department. [Contingent workers’] management is [business unit] specific and they are taken care by individual [business units]” Participant C2.E.

There are two contemporary human resources strategies at C2-VD organisational level. They are bringing in next generation workers and developing new leaders. C2-VD’s HR is in charge of the new graduate programme. Every year, new graduates are hired and assigned to learn and work in different business units. The IT services business unit also takes up three to four new graduates each year to develop them as the next generation successors. HR is also responsible for a leadership development programme. Each business unit proposes key individual performers to join the programme.

6.1.3. Resource strategy at the group level

In C2-VD, the business nature and project structure of each business unit are unique, and the cost structure may not be the same. The source of cost pressure and imposed financial measures are business unit specific. Therefore, the non-permanent or non-direct-contract resource strategy is left to the individual business units or groups. For the IT services business unit under study, the major component of project cost is ‘people’ cost. For permanent and direct contract staff, the cost allocated to a project is based on the corporate level labour rates, and the time the staff spend on the particular
project. One of the performance measures of permanent and direct contract staff of this business unit is the time they can bill on client projects as their ‘utilisation’. Permanent and direct contract workers are expected to manage their own utilisation hours although they have little control over the pre-set labour rates. The labour rate of any IT staff is much higher than an individual’s salary as it includes various overheads. From the project’s cost perspective, the cost of a permanent staff and a direct contract staff is the same and as expensive. This explains why the IT services business unit usually has very few or no direct contract staff. Participant C2.F comments that “in a lot of cases, in order to win a deal, the price is squeezed. The price is not enough to cover the cost [of the actual] utilisation of permanent staff”. Participant C2.F reveals that one of the ways to lower the project cost is to bill fewer hours on the project. However, this impacts the utilisation measure of the corresponding staff. On the other hand, the cost charged on projects for utilising agency contingent workers is different. The agency contingent workers are procured through the procurement departments as services. The cost is the service cost. There is no utilisation measure. There is a significant gap between the costs calculated from the two cost models for the same person taking the same total package but having different employment arrangements. The gap in the two cost models indirectly invites the IT services business unit to pick agency contingent employment as a key human resource strategy for its projects.

Contingent employment is not a new practice in the IT services business unit; Participants C2.B, C2.D and C2.E find there has been an increasing trend over the years to use more contingent hires. Nevertheless, cost is not the only consideration when a new project sources its human resources. There are other considerations such as maintaining the utilisation of permanent staff, having the right mix of skills, and mitigating project risks. Summarising the views of six participants, the human resources practices at the group level of C2-VD are as follows:

- The project director level must be filled by internal staff;
- Internal staff are preferred for senior project positions;
- Internal staff are used first before using external staff;
- External professionals are hired with specialised skills to fill a skill gap;
- External generic skill workers are used for the outstanding workload; and
- A pool of stable extended workforce (EWF) is retained for future projects.

In the above generic project resource model, ‘internal’ staff are the permanent staff (local and overseas) and direct contract workers and ‘external’ staff are the workers from the human resources agencies, subcontractors, local partners, and offshore or overseas partners. Of course, before confirming a team mix, the ‘people’ cost must be put in a project cost spreadsheet based on the cost models of internal and external workers. This is to check the cost affordability at the project level.

“Project cost is [...] a consideration [determining] use internal or external resources” Participant C2.B.
“[The IT services business unit] needs to have a sustainable structure to run [the] business. This has to do with our financial (cost) measurements. […] Too low a ratio [of contingent to permanent staff] may not be appropriate” Participant C2.A.

In this resource model, senior project positions are preferred to be filled by internal resources. ‘A project manager’ is a senior project position. However, it is possible to fill this position with an agency contingent worker. Participant C2.E, the operation manager of the business unit, explains the condition under which the business unit will hire contingent project managers.

“As a large organisation, we have people turnover, but headcount may be frozen, and we run out of project managers […] or the skill required is very niche; we will assign a permanent project director (PD) to take care of [the project with a contingent project manager]” Participant C2.E.

The major constraint of a contingent project manager is that he or she cannot authorize any financial matters (such as project finance and contingent worker salary approvals) and internal organisational processes (such as project audit and pre-sales bid approval) that C2-VD demands. Projects led by contingent IT project managers are mandated to have an internal ‘project director’. This role takes care of the work that a contingent project manager is not authorised to perform. After a project manager is assigned, he or she will select the project team members. In most cases, the team is a mix of permanent workers, stable EWF and other external workforce. The project director, Participant C2.C further explains how this resource model supports the business unit to utilise a large pool of agency contingent workers as its resource strategy.

“Majority of the EWF on projects are existing contingent workers. In any new projects we will deploy more existing EWF than the brand new EWF. This is why we can manage such a large portion of EWF on projects” Participant C2.C.

Participant C2.D, a veteran contingent project manager, is a stable EWF of C2-VD and has utilised existing stable EWF to train the new agency contingent workers on his projects. The pool of stable EWF truly becomes the extended team of the IT services business unit.

6.1.4. Other human resources strategies

Participants C2.A, C2.C and C2.E mention three other human resources strategies that are commonly practiced in C2-VD. The first strategy is outsourcing. A part or the entire project may be contracted out to another company. Customers outsource IT projects to C2-VD, and it in-turn outsources part or whole of it to a subcontractor in a back-to-back format. The contract’s terms and conditions of the project flow down to the outsourcing company. The benefits of this strategy are that the bottom line is covered, and the project risks are shared.
“Regarding the [...] trend – outsourcing, the number of back-to-back outsourcing projects is increasing. This is the whole project is contracted out to a company (domestic or offshore). This is a trend in large organisations. Outsourcing means bottom line is covered as the price is fixed. Risks like terms and conditions, cost and others are transferred. Large organisations outsource their projects to vendors like us to share the risks as much as possible. We also subcontract projects to subcontractors and vendors to down flow the risks” Participant C2.E.

In the above quote, Participant C2.E mentions an outsourcing company may be an offshore one. This means work may be performed outside of Hong Kong. This is the second strategy – offshore outsourcing. C2-VD has utilised its offshore software development arms of the parent corporation in India and China for a long time. The IT services business unit has also applied the China offshore development model for a number of years. Although there are issues (such as culture ones) to overcome, it is a corporate strategy to save cost and achieve operational efficiency utilising an offshore outsourcing model.

“Utilising contingent workforce is our business strategy and offshore is another [...] It is part of the plan” Participant C2.A.

“We have applied the China offshore development model for many years. [However, we] still have some hurdles to overcome” Participant C2.E.

The third strategy is in-sourcing IT professional workers from China and overseas in the form of agency contingent workers. This is not only a cost consideration but also a capability matter. As stated in Section 2.2, one of the challenges of CIOs is the ‘never-ending workforce skill shortage’. C2-VD is facing the same problem. Participant C2.C explains that Hong Kong does not have enough good programmers and needs to go to China to import them.

“It very difficult to hire a good local programmer with a few years experience unless he or she is from China” Participant C2.C.

Participant C2.A sees C2-VD also demands experts with unique value to win competitions; these experts can also be in the form of contingent employment. He sees the resource strategy of the IT services business unit is about optimising the total cost of ownership, not the lowest cost strategy. Participants C2.A and C2.E have provided summaries of these different human resources trends on IT projects in C2-VD.

“Nowadays, a project that employs a mix of EWF, subcontractor and offshore vendors at the same time is not uncommon” Participant C2.E.
“This trend of hiring contingent workforce is getting popular [...] More organisations employ external workforce, contractors or even go for offshore. This is a paradigm that cannot be changed” Participant C2.A.

To summarise C2-VD’s human resources strategy for its IT services business unit is high reliance on external human resources while keeping the core competence internal.

6.2. Importance of IT Project Management Capabilities

6.1.1. Operation challenges in a project-based business

C2-VD is a local office of a global corporation; the challenges and risks faced by the corporation are likely to apply to C2-VD although there may be variation in magnitude and significance. In reviewing the risk analysis of the parent company’s recent annual reports (2009 and 2010 annual reports) (see Appendix C2), over 20 risk items were identified. Among the risk items three items are related to the research topic of this thesis. The first one is about contingent workers. The corporation depends on third-party suppliers including those supplying contingent workers. The reports stated that the corporation relied on third-party suppliers for the provision of contingent workers; the failure to manage the use of such workers effectively could adversely affect the results of operations. This risk item was first found in the 2003 annual report of C2-VD’s parent company (see Appendix C2). The second one is about the nature of IT services projects. It stressed that there were risks associated with some outsourcing or long-duration projects. Over time the pricing estimations and assumptions might vary. There might be delays caused by factors outside the company’s control. There were also exposures of performance risk when constructing new IT systems with new technologies. The third one is failure to execute an operational efficiency strategy. The last two risk items were first mentioned in the annual reports of C2-VD’s parent company in 2008 (see Appendix C2). The operation of the IT services business unit under study of C2-VD is exposed to all these three risks. Its major business comes from delivering client IT projects (see Section 7.1.2) (second risk) that rely heavily on external resources (see Section 7.2.3) (first risk) and delivering these projects cost efficiently is essential to internal and external measures (see Section 7.2.1) (third risk). The IT services business unit has to manage these risks to survive through competitions and win the business. One of the keys to success has been heavy investment in enhancing project management capability of the business unit as a whole.

“I have seen a lot of projects’ failure [...] It’s a matter of how project management manage the issues [...] Our group is running service business and people [permanent and EWF] are our only asset” Participant C2.E.
“As pricing is very critical, managing project finance is an important project management skill”
Participant C2.C.

6.1.2. Managing the challenges

6.1.1.1. Retaining stable EWF resource pool

In order to assure project success, C2-VD has investments to tackle the three risk items. The first risk comes from reliance on contingent workers for project success. It is managed at the group level because contingent employment management is business unit dependent (see Section 7.2.2). The essential IT project management capability has been able to acquire and retain stable contingent workers to deliver projects.

The IT services business unit has established the ‘resource manager’ position (see Figure 7.2) within the business operation team to take care of the hiring, employment contract extension and mobilisation of EWF. She also plays a key role in resource networking (see Section 7.6.2). Furthermore, this business unit has established a ‘people manager’ role beyond the formal organisational structure in order to retain a pool of stable EWF. People managers provide personal care to agency contingent workers; they normally are not the contingent workers’ project manager. This allows a contingent worker to have at least two channels to communicate with the organisation, while the managers (project manager and people manager) can provide different views and coaching to the worker. Approaching the resource manager is the third channel.

“In our current practice, every EWF has an assigned people manager who may not be his or her project manager [...] EWF can work with the people manager on the emotional side matters. The career development side of EWF is also the job the people manager” Participant C2.B.

In the IT services business unit, it does not have enough internal staff to play the project manager role; an EWF person may also play project manager role (see Section 7.2.3). Therefore, as it invests on industrial recognised project management credentials, such as PMP® of the PMI and PRINCE2 training and sponsors their project managers to take the qualification examinations; such investment is not limited to permanent employees, but is also available to agency contingent workers who assume a project manager role.

“Recently, we have sent a group of permanent staff to attend PMP® training and examination. The success rate is over 70%. However, we only have a limited number of permanent staff, and contingent workers are our substitute workers. Therefore we also allow our contingent workers to attend such examination” Participant C2.E.
This is how the IT services business unit retains its EWF to be stable and have the necessary project management capability to mitigate the first risk – heavy reliance on contingent workers.

6.1.1.2. Establishing governance structure and methodology

The second risk is related to the nature of the projects. For the IT services business unit, the clients of its IT projects are large Hong Kong enterprises of various business sectors. The projects handled vary from small projects (< 100 person-days) to huge projects (> 100 person-years). There are at least more than 10 projects going on at the same time in the business unit. It is a complex operation. This is related to the third risk - the failure to execute an operational efficiency strategy. In the IT services business unit, operation efficiency is about project execution efficiency with majority of the business coming from client IT projects. There, managing the project execution and finance outcome of each project are critical to ensure it contributes to the whole business unit’s business results.

The mitigation is by managing the projects according to its size (based of project price) and risk severity. At the organisation level, a corporate level PMO has been established (see Figure 7.2). Its functions are similar to what Walker & Christenson (2005) describe as Corporate Project management Office (CPO); it “services the entire company and focuses on strategic and corporate activities to coordinate and improve project management within the entire organisation”(p. 283). The PMO takes care of large (over certain project price), high risk or severe impact projects. Participant C2.B has provided a description of the PMO function in C2-VD:

“The PMO has existed for a long time [...] The PMO has its function in terms of capabilities enhancement and performs risk mitigations, periodic reviews, quality assurance (QA) process check and others [...] The PMO manager not only reviews projects at bad times but also performs periodic checking, [...] has regular meetings with all managers and finance team to look into the key issues of projects. [...] In case there are customer issues or project team issues that the project manager cannot handle alone, the PMO and business managers will help to resolve these issues”

Participant C2.B.

The PMO is also responsible for cultivating the project management culture and practices in the organisation across different business units under the services business segment (see Figure 7.2). The PMO manager ensures project managers are well aware of the parent company’s global methodology and comply with it. At the group level, the business operation team (see Figure 7.2) has a delivery assurance (DA) manager; the role is similar to that of a PMO manager but is dedicated to the IT services business unit only and takes care of projects of all sizes. Therefore, all are under the governance of the DA manager. This role guides and monitors projects from pre-sales, delivery to project closure within the business unit. The business operation team also has a few QA staff
members to ensure that the localised global methodology, its own ISO standards, is complied with in all projects.

“Our organisation has a well-defined [project management] methodology on how to manage projects. Templates and processes exist and are easily accessible by all staff” Participant C2.A.

“We require all projects to fulfil our ISO standards. All project managers need to ensure our projects pass ISO project audits and compliant to the ISO processes” Participant C2.C.

C2-VD and the IT services business unit have a heavy investment in setting up the proper organisation structure, the most effective project management methodology and hiring appropriate experts to drive project governance to mitigate the risks coming from project nature and execution.

6.2. The Impacts of Contingent Employment

After understanding C2-VD’s human resources strategies of IT projects and the importance of project management capabilities that determine its success, this section will analyse what impacts contingent employment have brought to C2-VD and the individual contingent workers. Table 7.6 at the end of this section summarises the findings.

6.1.1. Positive impacts from the organisation’s perspective

From the literature survey outcomes on contingent employment, seven positive impacts (or benefits) that attract organisations to hire contingent technical workers in the new economy have been identified (see Section 3.3.2.1). These are ‘Cost’, ‘Flexibility’, ‘Acquiring skills’, ‘Flow of knowledge’, ‘Budgets and headcount’, ‘Screening’ and ‘Unfilled positions and undesirable work’. Upon analysing the inputs from the six participants of C2-VD, the positive impacts of employing contingent IT workers basically fall all of the categories except the ‘Unfilled positions and undesirable work’ which is replaced by ‘Fulfilling business needs’.

The top positive impact of contingent employment is ‘Cost’. Four participants (Participants C2.A, C2.B, C2.C and C2.E) have this view. C2-VD’s contingent employment strategy is driven by the highly price sensitive market (see Section 7.2) and the operation efficiency challenge (see Section 7.3). Driving down cost for operation efficiency is definitely the major incentive to utilise contingent workers. The finance model applied in the business unit for the cost calculation of internal staff is substantially higher than that of external staff (see Section 7.2.3). The latter is normally much lower than the former for some comparable resources. Moreover, the cost of internal staff is a recurring cost, while that of external workers is a one-off services cost. The financial data appear more positive when external workers such as agency contingent workers are used.
“Utilising [...] external workforce can complement our cost structure. With a better cost structure, we can be more competitive in the market” Participant C2.A.

“Hiring contingent workers is a one-off cost to an organisation. Employing permanent staff incurs recurring cost [...] use EWF to make the finance books look better” Participant C2.B.

“It is part of the strategy of our group to use EWF in our projects. The key reasons are cost efficiency and [others]” Participant C2.C.

“As customers are paying less, we need to cut cost. A mean to do this is to use external instead of internal [permanent or direct contract] workforce” Participant C2.E.

The second benefit of contingent employment to C2-VD is ‘Flexibility’. Participants C2.A, C2.C and C2.D have mentioned this point. It is described differently by different participants. For Participant C2.A, contingent employment flexibility is about “alleviating certain overheads of the demands”, “simpler [management process] in arranging agency contract” and “adopting different skills”. For participant C2.C, it is similar to the second point of C2.A: contingent employment flexibility is about the “internal process on headcount [control]”. It is much simpler to obtain contingent employment approval. However, for Participant C2.D, it is about large organisations avoiding the need to explain to the public as they lay off their staff as “it is normal that an organisation does not extend [contingent workers’] employment contracts”. The third positive impact of contingent employment is ‘Acquiring skills’. Three participants, Participants C2.A, C2.B and C2.D, recognise the IT sector demands for changing and diversified skills. No organisation has all the needed skills in-house. Even if the skills are hosted inside the global corporation, these resources are scare and may not be available when needed. Contingent workers can be used to fill the skill gap. Participant C2.B provides a good summary on contingent employment in terms of acquiring the necessary generic or expert skills.

“[..] contingent employment is appropriate to certain IT jobs. Jobs that require generic skills are suitable ones [to use contingent workers]. For jobs that require subject-matter knowledge for a short period of time are also suitable candidates to use EWF” Participant C2.B.

The fourth one is ‘Budgets and headcount’. Participants C2.A, C2.B and C2.C have expressed this viewpoint. Approval of headcount has already been touched on when the ‘Flexibility’ impact was discussed. Contingent workers hiring has no headcount control; the main consideration is the affordability of the project budget. When discussing the ‘Cost’ impact, the recurring cost nature and high labour rate of internal staff show it not a preferred choice. This cost nature also leads to the calculation of a business unit’s affordability of hosting a certain number of permanent or direct
contract headcount. In C2-VD, the headcount approval authority is beyond the Hong Kong office’s
ccontrol. It may go up to senior management of the corporation, depending on the position. Participants
C2.A, C2.B and C2.C see that contingent employment is a feasible alternative when there is no
headcount available.

“Being an international company, the headcount approval process is time consuming and
depends on the project finance [...] There is a need to use contingent workers to bridge the
resource gap” Participant C2.B.

‘Fulfilling business needs’ is C2-VD’s fifth benefit of having contingent employment. From the cost
perspective, both Participants C2.A and C2.B see utilising contingent employment lowers the project
cost, increases the win rate and thus earns more business. Participant C2.A sees “With a better cost
structure, we can be more competitive”, and Participant C2.B believes that “During bidding stage, by
budgeting a project to use EWF can lower the bid price and hence increase the win rate”. The sixth
positive impact from an organisation perspective is ‘Screening’. Participant C2.B has personal
experience. Her position, Resource Manager, was new to the IT services business unit when she first
joined C2-VD. As the benefits of having such position in the business unit were unknown, Participant
C2.B was initially given a one-year direct contract offer instead of a permanent one. After two years,
the position proved to be helpful to the business, and Participant C2.B’s performance was satisfactory;
therefore, she was converted to a permanent staff member. Participant C2.A also sees that “If the
talent is really a good one, we can convert him or her to be a permanent staff. This is a chance to try
out the capabilities of the staff prior permanently hiring him or her”. The seventh and the last
mentioned benefit is ‘Flow of knowledge’. Participant C2.A sees the organisation not only utilises the
contingent workers to fulfil business needs but also gains knowledge from the external workers.

“Employing external workforce is definitely a plus to our organisational knowledge advancement
[...]. From the hiring organisation perspective, there is also learning gained” Participant C2.A.

Table 7.2 below summarises the above positive impacts of contingent employment from an
organisation perspective. The figures within the brackets are the numbers of participants who have
expressed viewpoints on the specific impacts.
Table 7.2: Positive impacts of contingent employment from the organisation’s perspective

<table>
<thead>
<tr>
<th>Positive Impacts</th>
<th>Organisation perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Cost (4),</td>
</tr>
<tr>
<td></td>
<td>2. Flexibility (3),</td>
</tr>
<tr>
<td></td>
<td>3. Acquiring skills (3),</td>
</tr>
<tr>
<td></td>
<td>4. Budgets and headcount (3),</td>
</tr>
<tr>
<td></td>
<td>5. Fulfilling business needs (2),</td>
</tr>
<tr>
<td></td>
<td>6. Screening (2), and</td>
</tr>
<tr>
<td></td>
<td>7. Flow of knowledge (1).</td>
</tr>
</tbody>
</table>

6.1.2. Positive impacts from the contingent worker perspective

From the literature survey in Section 3.3.2.2, the four advantages of contingent employment to contingent workers are categorised as ‘Career and personal development’, ‘Flexibility and autonomy’, ‘Higher wages’, and ‘Add knowledge and value to curriculum vitae (CV)’. In the case study of C2-VD, the outcome is similar to that of the literature survey but with the last two benefits changed to ‘Good wages’ and ‘Staying marketable’ respectively. In addition, ‘Happy working environment’, ‘Manageable workload’, and ‘Stability’ are mentioned as positive impacts in C2-VD. They are discussed below and summarised in Table 7.3 at the end of this section.

The first positive impact category from a contingent worker perspective quoted by all participants is ‘Flexibility and autonomy’. There are three types of flexibility or autonomy that the six participants have mentioned. They are salary increases flexibility, freedom to choose jobs and autonomy to take breaks among contracts. Participants C2.D (12 years) and C2.F (seven years) have the longest contingent employment records in this case study; they provide the most representative views on flexibility and autonomy.

“I am an agency contingent staff [...] Personally, from time to time, I want to take a break. Contingent job is more flexible [...] I have more flexibility and control over my time” Participant C2.D.

“The first advantage is the flexibility to select projects. It was because the project fitted my target that I took the contingent job [...] The second advantage is the flexible salary package for contingent workers. The salary package for EWF is more flexible than that for permanent staff” Participant C2.F.

The second positive impact category from an individual contingent worker in C2-VD is enjoying the ‘Happy working environment’. All the six participants see that there is no difference in terms of work
and the treatment of C2-VD to permanent or contingent workers. Therefore, there are a significant portion of agency contingent workers, such as Participants C2.D and C2.F, who are comfortable to remain a long time with C2-VD under contingent employment. The resource manager, Participant C2.B, says 40% of the EWF is stable (see Section 7.1.2 above). Participant C2.B has the closest contact of all EWF along with Participant C2.C as a project director leading a pool of EWF. They provide insight on this impact.

“As for those stable [EWF], they have worked with this organisation for a long time and adapted the way it works [...] If the gap [between permanent and contingent staff] is not too big, and the job is relative happy, a contingent worker will not look for a new job to take the risk if the new boss is good or the new customer is good” Participant C2.B.

“EWF may have got used to the contingent employment arrangement; and after being stable for a few years, they have peers and work happily with us” Participant C2.C.

The IT services business unit has provided opportunities to the EWF, including assigning people managers to take care of the personal feeling and career development future of this group of colleagues (see Section 7.3.2.1 above). The business operation manager, Participant C2.E, provides some examples of people caring behaviours in the IT services business unit of C2-VD.

“For some permanent-staff-only events [...] we make exceptions to involve those [long-term] EWF [...] We need to go outside the office to meet our staff because most of them work on-site at customer premises [...] We want to let the staff know we care them” Participant C2.E.

The long-term stable contingent project manager, Participant C2.D, agrees with this view: “the major reason that I stay on this organisation is that I feel comfortable to work here [...] This employer gives me opportunities and flexibilities”. The third positive impact category that is agreed upon by all six participants is ‘Good wages’. Basically, all the six participants see that the total packages of permanent and contingent workers holding a similar job level are comparable. Contingent workers have fewer benefits such as training but have more cash. Moreover, contingent workers enjoy salary increase flexibility (see the ‘Flexibility’ impact above). Therefore, the EWF normally are paid at the market rate although it can be volatile and fluctuates with the labour market situation. Those who prefer to stay as contingent workers are pleased with the packages offered by C2-VD and the negotiability on every contract.

“I do not mind having less training [benefits]. It is counted in the total package [...] I will take care of my studies” Participant C2.D.
“The salary package of a contingent worker is flexible and negotiable [...] When I was a contingent worker, the salary increase per year was good enough to cover all the issues that made me feel unhappy” Participant C2.F.

The fourth positive impact category for individual contingent workers is having ‘Career and personal development’. The contingent workers are treated as the extended workforce of the IT services business unit of C2-VD. It provides a formal and structural career ladder to this pool of EWF. They have promotion paths within the contingent ladder and can be converted to the permanent career ladder. All the participants have mentioned this factor as the key benefit to individual contingent workers.

“The job level and title of EWF are standardised and formalised in our [business unit] [...] We also recommend EWF to be converted to permanent employees from time to time” Participant C2.C.

The veteran contingent worker, Participant C2.D, also agrees that C2-VD has provided a career path and job required training to contingent workers. He sees “[...] no matter whether an IT professional works as contingent or permanent staff, he or she has promotion opportunities. It all depends on the performance” and “whatever you need to know in your role and job, appropriate training will be provided even you are a contingent worker”. In addition to the official career path and training opportunities, contingent workers with high potential and good performance will be given challenging jobs and be provided with opportunities to be promoted to next level. On-the-job coaching is also provided.

“[Contingent] job [also] provides opportunities to learn, broader exposure and be able to accumulate more experience [...] Coaching is also provided to EWF through working on projects and through our resource manager” Participant C2.A.

This is exactly the reason that Participant C2.F chose to join C2-VD even though the job offer was only a contingent one. He “selected the contingent job of this IT services business unit because [...] it gave [contingent worker] more exposure and larger scope”. The fifth positive impact category is ‘Manageable workload’. Five participants see this factor as essential to contingent workers who stay for a long period of time with C2-VD. Contingent workers usually work on a single project or have specific work assignments. They do not have additional responsibilities such as pre-sales activities that permanent IT workers have to perform on top of delivery work. Compared to the permanent workers, the five participants see contingent workers’ lives are not as difficult and are more manageable. This point is also one of the reasons that some of those in the EWF pool reject the permanent offers from C2-VD.
“Those [EWF] who stay with us long enough may see it is tougher to be our permanent staff” Participant C2.B.

“Some EWF after working here for a long time, understand [...] the workload [of permanent workers] may be heavier. They may enjoy the freedom and not be interested in taking the permanent job offers” Participant C2.F.

The sixth positive impact category of contingent employment from the individual’s perspective is ‘Stability’. The contingent employment strategy of the IT services business unit is treating contingent workers as the extended workforce. The treatment is as close to that to permanent staff as possible. Maintaining this resource pool’s stability is part of the human resources strategies of C2-VD. “Practically, we continuously renew our EWF if they perform well, and we have business demand”, says Participant C2.A. The difference may be the package and employment duration are not the same during both good and bad economic times.

“My employment duration may or may not be aligned with the project duration. If the external market is good, my employment contract will be renewed earlier and on a year-by-year basis. If the market is not too good, the duration will be tied to the project schedule” Participant C2.D.

However, five participants have interpreted ‘Stability’ from another perspective stating there is no difference to being a permanent or contingent worker in C2-VD. Basically the job security or stability is the same for both types of IT workers, especially when the economy is poor. C2-VD can terminate a contract of a contingent worker or fire a permanent staff with one-month notification; it can also cut the salary of both types of workers. Contingent workers are as insecure or as stable as permanent workers in C2-VD. Therefore, Participant C2.D says “Nowadays, the world is very pragmatic. Only those who can adapt survive.” Participant C2.F has stayed in the IT services business unit for nine years when this case study interview was conducted, and he has a stable job with career advancement during the period. He provides reasons why he did not worry about his job during both good and bad times in C2-VD.

“At the time I was employed as contingent staff, I did not see job security as an issue. [At that time] there were abundant jobs demanded for systems analyst. During the year, [in 2003] when the job market was extremely bad [...] As long as I could perform and deliver the work, I did not worry [about my] employment contract renewal. Moreover, at bad times like 2008/2009, organisations significantly cut the workforce [...] There was no job security to all workers. I see there is no need to care it is a contingent or permanent job but grasp any valuable opportunities” Participant C2.F.
Lastly, the seventh positive impact category is ‘Staying marketable’. Participants C2.C and C2.E see C2-VD keeps contingent workers stable by providing opportunities to work on projects utilising latest technologies and having exposures to challenging jobs.

“After certain stage, we see that everyone look for job satisfaction. If we can provide a challenging job for them to learn, they will stay” Participant C2.E.

“Stability also comes from skill marketability. EWF need to maintain their marketability and they care what projects they are doing. If they find the related technology will be hot in the market and they can easily find jobs in the market that required such skills, these EWF will be more stable” Participant C2.C.

Participant C2.D further points out that the freedom to choose a project (refer to the ‘Flexibility and autonomy’ positive impact above) is positive. One can choose projects that make one stay marketable.

“Being a contingent staff, I have the flexibility to select projects or jobs to be engaged. I can select jobs that make me more marketable”, says Participant C2.D.

Table 7.3: Positive impacts of contingent employment from the contingent worker perspective

<table>
<thead>
<tr>
<th>Positive Impacts</th>
<th>Contingent worker perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Flexibility and autonomy (6),</td>
<td></td>
</tr>
<tr>
<td>2. Happy working environment (6),</td>
<td></td>
</tr>
<tr>
<td>3. Good wages (6),</td>
<td></td>
</tr>
<tr>
<td>4. Career and personal development (6),</td>
<td></td>
</tr>
<tr>
<td>5. Manageable workload (5),</td>
<td></td>
</tr>
<tr>
<td>6. Stability (5), and</td>
<td></td>
</tr>
<tr>
<td>7. Staying marketable (3)</td>
<td></td>
</tr>
</tbody>
</table>

6.1.3. Negative impacts from the organisation’s perspective

From the literature survey on the negative impacts of contingent employment from the organisation perspective, there are four main concerns (see Section 3.3.3.1). They are ‘Leaking private knowledge’, ‘Higher rate to contingent workers’, ‘Attitude and quality concerns’ and ‘Management of contingent workers’. Participants of C2-VD have no issue with the ‘Higher rate to contingent workers’ but have concerns about ‘Culture and adaption’, ‘Knowledge drainage’ and ‘Project cost overhead’. Table 7.4 below summarises the negative impacts from the organisation’s perspective.
The first concern at the organisational level is ‘Management of contingent workers’. Five participants (Participants C2.A, C2.B, C2.C, C2.D and C2.E) mentioned it. Participants C2.B and C2.D observed the increasing trend of the IT services business unit using agency contingent workers to staff project roles in the past eight to nine years before this case study was commenced in late 2009. It was also this trend that made the position of Resource Manager a permanent one in 2002.

“The trend of using contingent workers is also increasing in our group. When I first joined this group nine years ago, there were only a few contingent workers. Now we have a lot more” Participant C2.B.

Since projects engage more contingent workers than before, the project workforce is more mobile and of higher volatility. Employment renewal negotiation with contingent workers becomes the day-to-day work of the project directors, project managers and resource manager. The workload can be heavy.

“[..] with many contingent workers including the project manager, a PD will need more time and get involved [..] If there are a large number of contingent workers and the project duration is relative long, the negotiation on renewal of contingent workers is time consuming” Participant C2.C.

From another perspective, Participant C2.A is concerned about the equal pay for equal work issue. In C2-VD, there are definitely people playing the same role (such as project manager) but taking different pay (or package) because of their employment status difference. This is part of the third-party supplier risk item documented in the corporation’s annual reports (see Section 7.3.1 above).

“We need to pay attention to our HR management. We need to be careful on HR issues such as different pay but similar jobs. It requires a balance among the different parties, and management needs to spend time on people management” Participant C2.A.

The second negative impact from the organisation perspective is ‘Attitude and quality concerns’. Four participants (Participants C2.A, C2.C, C2.E and C2.F) have expressed this viewpoint. Not every contingent worker is stable. In fact, the unstable ones (60%) are more than the stable ones (40%) (see Section 7.1.2). With the higher mobility of contingent workforce in comparison to permanent workers, Participants worry about the ‘loyalty’ and ‘ownership’ attributes of contingent workers. New contingent workers join a project with little knowledge about C2-VD’s standards and practices; they may potentially violate some C2-VD’s rules or policies as they are unaware of the standards. Furthermore, they are likely to have lower ownership and loyalty; there is risk of low commitment to deliver projects until completion and to provide consistent work. Project quality may be at risk.
“With new EWF joining our projects, it is an issue of how to manage these new employees to work on the job by the same methods, same expectations and same quality as our existing staff” Participant C2.A.

“[It is an issue that] the relative low ownership and the high mobility of contingent workers as compared to internal workers. Large organisations like us always have their structures and policies. As a contingent project manager, he or she may not know our policies [...] they will hit issues” Participant C2.E.

Participants C2.A and C2.E express that the resolution is to ensure all project participants (including newly hired contingent workers) comply with its project management methodology (ISO), templates and processes. If the contingent worker is the project manager, the project director has to transfer such knowledge to the project manager. The business operation is responsible to enforce the compliances.

“In order to ensure new hired contingent workers or project managers can work according to our policies, as a business operation manager, I enforce my managers to have a start-up meeting for each project. Each meeting has agenda, expectations and schedule [...] From time to time, we send out [relevant policies] to contingent workforce to let them know [the policies]” Participant C2.E.

The third negative impact to the organisation is ‘Culture and adaption’. With a large number of contingent workers, they may or may not remain with C2-VD. Time is always required for new people to adapt to the organisational culture of C2-VD and practices of its IT services business unit. There is need for investment in training, coaching and mentoring.

“As [new comers] join our organisation, we provide the required training regarding our ISO processes [...] For new project managers, they may need a bit more time on coaching and mentoring” Participant C2.C.

Nevertheless, Participant C2.F feels there are risks in bringing in a new contingent worker while his or her performance is unknown. He sees the organisation should not always “look for new candidates in the market and start to establish a new relationship or tests out the new candidates’ ability” but “should utilise and develop the workforce in a right way and make it a stable one”. The fourth negative impact of contingent employment to the organisation is the issue of ‘Knowledge drainage’. Participants C2.A and C2.D share this worry.
“It is undeniable that experience gained or business domain acquired by external workforce cannot be retained. No matter how much handover or documentation is done, still some knowledge is lost” Participant C2.A.

“It is unavoidable that some mistakes still repeat. With the volatility of the continent IT workers, this is normal” Participant C2.D.

In the business unit under study, the key people who retain the organisational knowledge are the project directors. Both Participants C2.A and C2.D have mentioned the project directors are those who have the most organisational knowledge. They play a key role in knowledge management and organisational learning. Participant C2.D believes that “the maturity improvement relies very much on the senior people, especially the PDs. The PD must be a permanent staff in this organisation, and most organisational knowledge is retained and transferred from this role”. Another solution is by enforcing formal project management processes. Participant C2.A states that the ISO processes require “there should be back up resources and enough documentation for new comers to learn and pick up the skills” and have proper “handover”. The fifth negative organisational impact is ‘Leaking private knowledge’. Both Participants C2.A and C2.B feel there is possibility that some confidential, private knowledge of C2-VD or its projects may be disclosed because of the contingent workers’ mobility.

“IT workforce is highly mobile; there are potentials of knowledge leakage as people move around” Participant C2.A.

“With EWF coming in and going out, there are worries that some confidential information of the organisation will be leaked out” Participant C2.B.

However, trade secret leakage is not a major concern to C2-VD as all contingent workers have signed non-disclosure agreements (NDAs) as part of the services contracts’ terms and conditions. Moreover, like any other project risks, it is managed at the project level. However, it is difficult to manage intangible knowledge disclosure; “it is difficult to control this even we have legal person to review the contracts. [...] If such knowledge is leaked out, it is hard to classify it as trade secret leakage” says Participant C2.A. Lastly, the sixth negative impact is ‘Project cost overhead’. Participant C2.F’s view regarding overhead to orient new hired contingent workers to the organisation has been expressed in the ‘Culture and adaption’ impact. Participant C2.B also sees it always take time to polish new relationships. If the new contingent worker cannot perform as expected, the project will be adversely affected. All these are costs to the project as the contingent workers are hired for specific projects. As there is staff turnover and the replacement is a new hire (not a stable EWF), such overhead is unavoidable. This is also the key reason that project managers prefer to use stable a EWF.
Table 7.4: Negative impacts of contingent employment from the organisation’s perspective

<table>
<thead>
<tr>
<th>Negative Impacts</th>
<th>Organisation perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Management of contingent workers (5),</td>
</tr>
<tr>
<td></td>
<td>2. Attitude and quality of work (4),</td>
</tr>
<tr>
<td></td>
<td>3. Culture and adaption (3),</td>
</tr>
<tr>
<td></td>
<td>4. Knowledge drainage (2),</td>
</tr>
<tr>
<td></td>
<td>5. Leaking private knowledge (2), and</td>
</tr>
<tr>
<td></td>
<td>6. Project cost overhead (2).</td>
</tr>
</tbody>
</table>

6.1.4. Negative impacts from the contingent worker perspective

From the perspective of contingent workers, the literature survey of this thesis summarised that there are five negative impacts (see Section 3.3.3.2). They are ‘Lack of career development’, ‘Absence of training and development’, ‘Job insecurity and instability’, ‘Lack of sense of inclusion’, and ‘Lower pay level, benefits and working conditions’. The findings in this case study are quite similar to the literature survey result except there are no concerns about job instability or lower pay level. Table 7.5 below summarises the above negative impacts from the contingent worker perspective.

The negative impact mentioned the most of contingent employment from a contingent worker perspective is ‘Lower benefits and working conditions’. Participants C2.B, C2.C, C2.D and C2.F raised concerns about this impact. They did not describe in detail what benefits that permanent staff members have over those of contingent workers in C2-VD. The one negative impact consistently mentioned is the training investment. This will be further discussed in the fifth negative impact later in this section. Participant C2.C has provided an expressive quote on some visible differences that lead to contingent workers electing to work in poorer working conditions.

“Our EWF do not have company emails or name cards [..] Most EWF uses public email boxes [..] Their name badges are different from permanent staff [..] They may even need to carry their own notebooks, which maybe of our competitors’ brand name to customer sites. We have no budget to provide notebooks to EWF. All of these are embarrassing” Participant C2.C.

The constraints on name cards, emails accounts and name badges that Participant C2.C mentioned above are corporate policies. Even C2-VD cannot change them at the organisational level. Some contingent workers have to bring their own tools such as a notebook to work; this problem is due to tight project budget and cost pressures. The issue of not having enough funding for the project teams’ tools is not new in C2-VD. Participant C2.C sighs: “It is not good, and customers also complain about [the email] practice [..] Some contingent workers have reflected they are unhappy about such
The second negative impact is ‘Job insecurity’. This viewpoint is shared by Participants C2.A, C2.B and C2.E. In Section 7.4.2 above, the sixth positive impact from the contingent worker perspective is ‘Stability’. One of the key points, job security or stability, is common for both contingent and permanent workers, especially when the economy is weak. If a contingent worker performs well, whether the employment contract is to be extended or not depends if “we have business demand” says Participant C2.A. Participants C2.B and C2.E also see that if there are excess resources, C2-VD will dismiss employees with a one-month notification regardless of the employment arrangement. Nevertheless, chances of having a successful employment renewal were much higher in the past. However, contingent workers may feel uneasy about the uncertainty as the employment contract renewals may not be smooth every time. Participant C2.B has such experience: “[...] after the employment contract ended, I had a few months that I extended my contract on a month-by-month basis. The feeling was the contract extension was unsure [...] I could not plan my time”. Relating to the ‘Stability’ positive impact in Section 7.4.2, the two veteran contingent workers, Participants C2.D and C2.F, have not expressed ‘Job insecurity’ as a negative impact to contingent workers. Participant C2.D believes that he can be able to find a job during good economic times without difficulty, while during poor economic times, no one has job security. The third concern of contingent employment is ‘Lesser career development’. In the status of being contingently employed, the EWF has no access to certain useful information that may benefit their career development in the long run. An example is C2-VD has a corporate-wide knowledge management system that contains profiles of all employees who had worked for the corporation. However, as stated by Participant C2.B, the EWF cannot access the information even though some EWF information is kept in the system. Another example is that EWF always work on-site at the customer’s premises and are unable to attend meetings at C2-VD’s office. They are likely to have less up-to-date information regarding the corporation, the organisation or their own business unit.

“Permanent staff need to go back to the office from time to time for meetings and have more up-to-date news about the organisation. Contingent workers are not too close to that” Participant C2.D.

Participant C2.F states that when the EWF stay mainly at the customers’ office with limited contact with C2-VD colleagues then gradually “They know more customers than people from their own organisation”. They accumulate less organisational knowledge compared to the permanent staff of C2-VD. If the contingent worker is a project manager, the constraint of not having access to financial data hinders him or her to advance their career (see Section 7.2.3). Participant C2.D believes that contingent managers such as himself “lack some experience on resource hiring and firing or project finance management” and therefore, Participant C2.F agrees that “after certain point, a contingent worker cannot walk further down the road”. Participant C2.F was converted to be a permanent project manager, and he strongly feels the difference of having financial data access. He says, “The major
difference as a permanent project manager is definitely in terms of the job exposure [.]. Now, I can participate in pre-sales activities [and] have chances on opportunities to prepare proposals, which are not required to be done as a contingent worker. On the delivery side, I need to manage the project finances”. Nevertheless, contingent workers have formal career and personal development in C2-VD (see Section 7.4.2), but it is up to a limit. The exposure of contingent workers is limited to the projects involved, while permanent staff members do not have such a limit. The fourth issue of contingent employment is ‘Lack a sense of inclusion’. Participants C2.B, C2.D and C2.F share these concerns because most of the EWF are hired and sent to work at customer sites. They have little opportunity to connect with the organisation.

“Our IT services business unit’s business is delivering projects to customers. [...] Project team members have more communications with the customer colleagues than with our own colleagues [...] There is no difference from working in a small organisation [...] When I was a contingent staff, I only knew very few (<10) colleagues from this organisation [and they] were the permanent staff working on the same project. Under such circumstances, the contingent workers are likely to have a low sense of belonging” Participant C2.F.

Participant C2.B also shares this view. She says, “Most of our agency contingent workers are hired for projects; they may never come back to the company. They just work at the customer sites. They have no knowledge of what the company is like”. Contingent workers have little sense of inclusion and do not feel that they are part of C2-VD. Regarding the strategy that C2-VD puts a lot of effort on provide caring and career development to contingent workers, Participants C2.B and C2.F feel that not enough work has been done. The resource manager, Participant C2.B, has seen “cases that contingent project managers have a lower sense of belonging as they are not sure if there will be new projects for them to manage. Their benefits may not be as good as permanent project managers, and they feel that the organisation does not pay attention to their career development”. Participant C2.F has an even stronger opinion on this point.

“The organisation or our group always say they are ‘people oriented’. I do not see this happen. I have seen some EWF colleagues were very unhappy with the job and the organisation’s arrangement. They were just sent to work on the projects [...] There is not enough personal or career caring on what they really want. The promotion policy that management always mentioned may not be the only ‘caring’ needed by contingent staff” Participant C2.F.

Participant C2.D holds a different view. He sees that the sense of belonging is low toward C2-VD disregarding the employment terms; it is a global issue when the economy is bad.
“As for sense of belonging, I do not see permanent staff has strong sense of belonging after the 2008/2009 economic crisis. Contingent and permanent employees have no differences. This is a global issue, not just an issue of this organisation or Hong Kong” Participant C2.D.

Lastly, the fifth negative impact of contingent employment is ‘Lower training and development investments’. Participants C2.A and C2.D have mentioned this point. In Section 7.4.2, the fourth individual positive impact ‘Career and personal development’, contingent workers have opportunities to attend training, opportunities to work on challenging jobs and a promotion path. Nevertheless, Participant C2.A makes it clear that “as for training, development and opportunities to learn new skills and knowledge, priority is definitely given to internal staff first”. Therefore, contingent workers inevitably have lower training and development opportunities. However, this is part of the reality of being contingently employed. Therefore, Participant C2.D relies on his own learning strategies rather than waiting for C2-VD’s sponsorship. He says, “I do not mind having less training opportunities. It is counted in the total package [...] I think as long as the package is fine, I will take care of my studies”.

Table 7.5: Negative impacts of contingent employment from the contingent worker perspective

<table>
<thead>
<tr>
<th>Negative Impacts</th>
<th>Contingent worker perspective (Number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lower benefits and working conditions (4),</td>
<td></td>
</tr>
<tr>
<td>2. Job insecurity (3),</td>
<td></td>
</tr>
<tr>
<td>3. Lesser career development (3),</td>
<td></td>
</tr>
<tr>
<td>4. Lack a sense of inclusion (3), and</td>
<td></td>
</tr>
<tr>
<td>5. Lower training and development investments (2).</td>
<td></td>
</tr>
</tbody>
</table>

6.1.5. Impacts beyond the organisational boundary

In this case study, the participants have raised two areas beyond the organisational boundary that may be impacted by the contingent employment practice in the Hong Kong IT sector. Table 7.6 below provides a summary of the impacts discussed in this section and the positive and negative impacts discussed above.

7.4.5.1. Gloomy low-cost high-value model

All the six participants shared the view that Hong Kong’s IT sector is difficult, and its future is not optimistic. Customers look for the Hong Kong IT sector to deliver high value IT solutions at a low cost by highly skilful IT professionals.
“[Hong Kong customers] demand for cost efficient IT solutions and ask for higher value IT solutions [..] The IT projects should help the organisations to be more efficient and closer to the market” Participant C2.C.

The expectation is high, but customers are not willing to pay the high price. They will benchmark companies in terms of cost and global capability.

“A friend of mine works in a bank. When there is a project, the bank will benchmark how much it costs if it is to be delivered in Europe, Hong Kong, China, or other places. Other than financial calculations, the bank also checks where such skilful resources are available and not too expensive. This may mean the Hong Kong IT sector is at risk” Participant C2.B.

Moreover, not every customer measures the value of IT solutions or services in financial terms. The IT spending or investment is calculated as the companies’ expenses. This leads to the high cost pressure on IT projects (see Section 7.2.1).

“From the buyer perspective, [IT spending is] a sum of money that has been consumed. Profit, gain, efficiency or the return from procurement may not be measured by each organisation [..] Buyers do not see the value [of IT]” Participant C2.F.

The quote from Participant C2.B above regarding the benchmarking practice of a bank illustrates the competition is not only on price but also on the capability of the people. IT is a fast changing and dynamic market, and the technology cycles are getting shorter and shorter. The demand for competent people is increasing.

“The market changes continuously. Projects are getting more and more complex; skills required are more than before [..] Customers are also more demanding, including requirements that the candidates of certain roles must have various skills, not just the team as a whole has all the required skills” Participant C2.B.

In order to compete and survive, IT organisations, such as C2-VD, rely heavily on contingent employment and other human resources strategies such as domestic outsourcing, off-shore outsourcing or in-sourcing contingent workers from China and overseas (see also Section 7.2.4). All these human resources strategies increase the mobility of the local IT workforce. This is particular the case after the economic crisis in 2008/09.

“Even very large organisations such as the Hong Kong and Shanghai Banking Corporation, permanent [IT] staff were also sacked. There is no big difference [between permanent or contingent staff] nowadays” Participant C2.D.
Employees of large IT and communications services organisation such as C2-VD do not see permanent employment is ‘secure’. This is why the contingent employment positive impact – ‘Stability’ (see Section 7.4.2) and negative impact – ‘Job insecurity’ (see Section 7.4.4) from the contingent worker perspective basically means that in bad economic times, permanent and contingent jobs are equally stable or insecure. In fact, the gloomy perspective of the IT sector has failed to attract intelligent high-level students to study IT in the past few years, and it may have difficulty to attract the next generation’s intelligent children to enter the IT field in the future.

“This situation [of difficult to find good local programmer with a few years’ experience] may be caused by the poor quality of the students who selected to study IT programmes. The Hong Kong community does not see the IT sector has good prospects. Thus smart students do not study IT related programmes” Participant C2.C.

Contingent employment has been a solution for many years in the Hong Kong IT sector to lower the cost of IT project delivery and increase the skill diversity to face the dynamic technological changes. If the local capacity cannot fulfill the demand on cost and capability, Hong Kong customers use outsourcing, offshore outsourcing and even in-sourcing off-shore low cost but skilful workers. Nevertheless, summarising the concerns of the six participants of this case study, the low-cost but high-value model may jeopardise the long-term future of the industry.

7.4.5.2. New generation IT professionals

“When we look at the future of IT sector, young IT candidates are our future”, says Participant C2.E. At the end of Section 7.4.5.1, Participant C2.C has commented on the poor quality of Hong Kong’s IT graduates as intelligent students did not study IT. He further explained that Hong Kong undergraduate study programmes have already prepared the IT workforce to omit fundamental IT programming skills.

“When I interview candidates to select new graduates, I find most of the [current Hong Kong graduate] courses’ design stress only on how to get user requirement and logical design [...] It seems that the universities are thinking that programming is low skill jobs that should be done by China, and [Hong Kong] graduates should take up higher value jobs” Participant C2.C.

The weak foundations of new graduates give employers of large organisations concerns regarding permanent job offers. In practice, the IT job market does not have many permanent job openings for inexperienced IT professionals (see Section 2.4.2); it is not easy to find a permanent job as a new graduate in large organisations such as C2-VD. Companies of a comparable size to C2-VD only recruit somewhat more than ten IT graduates every year. Facing this reality, starting an IT career with
A contingent job is a greater possibility than as a permanent employee as the first job of new IT graduates.

Although the participants of this case study have expressed they are not optimistic about the current working model of Hong Kong IT sector, however, they do not see that young IT professionals have no future. In fact, there is increasing demand for IT services (see Section 2.4.3). There is a market, but it is a difficult one. Participants C2.A, C2.C, C2.D and C2.E have provided advice to young IT professionals to seek career advancement. They are: (i) continuous learning; (ii) learning on the job; (iii) networking; (iv) gaining knowledge of high technology or business domains; (v) having the right attitude; and (vi) performing well. For any practitioners in the IT sector, continuous learning is important. The industry changes too quickly, “one will be behind if one does not learn new technologies. Learning is the key” says Participant C2.D. When a young professional falls into the contingent employment track, one should understand that “self learning is very important. Nobody will take care of you now” says Participant C2.D. Participant C2.A also advises that one should “put more emphasis on the opportunities to learn on top of the remuneration package”. For formal study, obtaining some professional credentials is also recommended by Participant C2.D. Participants C2.A and C2.D share a similar view that a young IT professional on contingent employment should learn on the job and look for the “right project at a right organisation [to] help one to gain the most [knowledge for the future]”. One should apply what one gains from one project to another. Participant C2.C further advises that “young people should not be too picky but find jobs and projects that they can learn some skills that make them survive in the industry”. Moreover, Participant C2.D sees formal training is not fast enough in this fast moving industry, gaining experience on the job is essential. Participant C2.E also advises young IT professionals to learn from experience colleagues or managers. She sees one “should not be afraid that management takes ‘chest x-ray’ (health check) for them. One learns a lot by being questioned by management. One should not take things negatively but as lessons learned”. Following on Participant C2.E’s view of learning from experienced colleagues, she sees one should take the opportunities networking and to “talk to different people, engage in knowledge sharing forums and do not treat this as waste of time”. Every conversation or contact with others is an opportunity to learn something new. Participant C2.D agrees that “If one is willing to learn, others do not mind to teach him or her. He or she can acquire new knowledge”. From another perspective, Participant C2.C sees that gaining high technology and business domain knowledge of an industry have an advantage in Hong Kong. Gaining such knowledge will make the young IT professionals have higher value. One may find it difficult to choose what skills to acquire when one is inexperienced in the industry, he suggests “When one is young, maybe working on some traditional systems integration (SI) project companies like our [business unit] gets to know various solutions and technologies before selecting a solution to follow on”. On top of learning, Participants C2.C, C2.D and C2.E point out young people today should have the right attitude. In order to survive in the Hong Kong IT sector, a young IT worker has to be hard working and not afraid to do extra work. Participant
C2.D sees one may "lose the opportunities by not doing more". After all, it is one’s performance determines one’s future, not the employment status. Participants C2.A, C2.C and C2.D believe if a contingent worker performs well, one can have more opportunities on new projects, have employment renewals, have job promotions or even be converted to be a permanent staff of C2-VD.

Table 7.6: Impacts of contingent employment in case study organisation C2-VD

<table>
<thead>
<tr>
<th>Positive Impacts</th>
<th>Organisation perspective (number of participants)</th>
<th>Contingent worker perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacts Beyond Organisational Boundary</td>
<td>1. Gloomy low-cost high-value model (6) 2. New generation IT professionals (4)</td>
<td></td>
</tr>
</tbody>
</table>

This section has investigated the participants of this case study’s view on two phenomena raised when discussing contingent employment in C2-VD that are external to the organisation. The external environment (including global and local economic situations) has driven Hong Kong’s IT sector to use a low-cost high-value model. It impacts the business model of C2-VD and how it runs the projects under its IT services business unit utilising various human resources strategies (including contingent employment). The environment and large organisations’ (such as C2-VD) survival model lead young IT professionals to have greater possibilities to follow the contingent employment path. Participants of this case study have provided their views and suggestions to the young IT professionals. Table 7.6 summarises all the impacts of contingent employment in C2-VD’s context.
From the above analysis, the contingent employment strategy of C2-VD imposes both positive and negative impacts to the organisation and the individual contingent workers. C2-VD chooses contingent employment as one of the key resource strategy for delivering IT projects to customers; it has built in the means to migrate the negative impacts caused by the temporary nature of the contingent workers. C2-VD provides a positive environment (such as having people manager to care about an individual’s career) to maintain a pool of stable contingent workers as its extended workforce and develops the stable EWF to be able to bring up new contingent workers. More importantly, C2-VD has its permanent staff to capture the organisational knowledge and learn the latest technologies and skills. All these mitigate the risks of high reliance on contingent workers. From the contingent workers’ perspective, the negative impacts are well known. Moreover, when the gap between permanently and contingently employed is not too great, they are happy to stay with C2-VD. Those good performers who want to enjoy the benefits of permanent workers of C2-VD may have opportunities to be converted to C2-VD’s employees. The reality is some contingent workers rejected C2-VD’s permanent job offers and preferred to stay as EWF because they do not want to give up some positive impacts such as ‘Flexibility and autonomy’ and ‘Manageable workload’. Contingent workers of C2-VD are confident that they will have a job at C2-VD during good times as long as they have marketable skills; they are not at a disadvantage to be fired or have their salary cut in poor times. The key to survival is to maintain marketable knowledge. Capturing and retaining knowledge are essential to C2-VD and contingent workers. The following section analyses the current learning practices adopted in C2-VD at the individual, group (business unit or IT projects) and organisation levels.

6.2. Organisational Learning and Project Success

6.1.1. Organisational learning of case study two organisation

The organisational learning activities of case study two organisation, C2-VD have been analysed using the Järvinen & Poikela’s (2006) process of learning at work model – a four-process (social, reflective, cognitive and operational) three-levels (individual work, shared work and organisation’s work) learning model. Details of the model can be found in Section 3.4.5.3 of this thesis and Table 7.7 below summarizes the organisation learning activities of C2-VD based on this model.
Table 7.7: Organisational learning model of case study two organisation. Source: Järvinen & Poikela’s (2006) process of learning at work model

<table>
<thead>
<tr>
<th>Individual: Context of individual's work (IT practitioners in the IT services business unit of C2-VD)</th>
<th>Social processes</th>
<th>Reflective processes</th>
<th>Cognitive processes</th>
<th>Operational Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Practice on the job</td>
<td>* Practice on the job</td>
<td>* Informal coaching from people manager</td>
<td>* Formal training</td>
<td>* Giving opportunities</td>
</tr>
<tr>
<td>* Progressive job complexity</td>
<td>* Progressive job complexity</td>
<td>* Learning from internal / contingent workers</td>
<td>* Web-based training</td>
<td>* Experimenting new practices</td>
</tr>
<tr>
<td>* Informal Networking</td>
<td>* Informal Networking</td>
<td>* Self study</td>
<td>* Formal qualification</td>
<td></td>
</tr>
<tr>
<td>Group: Context of shared work (IT services business unit or IT services project teams of C2-VD)</td>
<td>* IT project execution</td>
<td>* Formal project assurance (Business operation driven)</td>
<td>* Formal project management methodology (ISO)</td>
<td>* Business operation and PMO driven continuous improvement</td>
</tr>
<tr>
<td>* Project knowledge sharing</td>
<td>* Project knowledge sharing</td>
<td>* People Manager function</td>
<td>* Business operation functions</td>
<td>* Experiment new IT project strategies</td>
</tr>
<tr>
<td>* Informal sharing</td>
<td>* Informal sharing</td>
<td>* EWF performance review</td>
<td>* PD as centre of knowledge</td>
<td></td>
</tr>
<tr>
<td>* Informal solution architect forum</td>
<td>* Informal solution architect forum</td>
<td>* Formal project closure</td>
<td>* Documentation</td>
<td></td>
</tr>
<tr>
<td>* Job rotation (cross projects)</td>
<td>* Job rotation (cross projects)</td>
<td>* Reusing deliverables</td>
<td>* EWF policy</td>
<td></td>
</tr>
<tr>
<td>* New hire facilitation</td>
<td>* New hire facilitation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisation: Context of organisation's work (C2-VD)</td>
<td>* Cross business unit project execution</td>
<td>* Formal Project assurance (PMO driven)</td>
<td>* Global project management methodology</td>
<td>* Maturity improvement</td>
</tr>
<tr>
<td>* Job rotation (cross business units)</td>
<td>* Job rotation (cross business units)</td>
<td>* Performance review</td>
<td>* Project management university</td>
<td>* Experimenting new policies</td>
</tr>
<tr>
<td>* Coffee Talk</td>
<td>* Coffee Talk</td>
<td>* Employee surveys</td>
<td>* Global knowledge management</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Corporate policies and guidelines</td>
<td></td>
</tr>
</tbody>
</table>

7.5.2.1. Social processes
Social processes are about the “sharing of know-how knowledge and experience between the individual, the group and the whole organisation. Learning requires participation” (Järvinen & Poikela, 2006, p. 181). At the individual level, individuals interact and learn by practice on the job. The IT services business unit of C2-VD has been able to attract a lot of contingent workers because its projects may be sizable, use the latest technologies and deliver to large Hong Kong organisations. Having opportunities to learn from such projects are attractive to IT professionals even if the jobs are contingent ones. Participant C2.F is one of these people. He decided to join C2-VD as a contingent IT worker because “the project size and nature” was found to be attractive. He appreciates the opportunities to learn on the job. After completing one project, an IT worker moves on to a new project. He or she may have chance to work on more complex work. If one performs well in the previous projects, one is likely to have opportunities to expand the exposure to some new arenas. This is a form of progressive on the job complexity. Furthermore, Participants C2.B, C2.C and C2.F
believe IT professionals should gradually move from technical tasks to management tasks on projects to move up the career ladder. Practically, every change in a project team exposes participant to working with a new combination of colleagues (both internal and external IT professionals). This is how informal networks are formed as IT workers move around to work on new projects. They can thus learn from other knowledgeable colleagues through such informal networks.

At the group level, the IT services business unit delivers multiple projects simultaneously under the leadership of project directors of practices (see Figure 7.2). Every project team is a three-tier structure with combination of **Tier One staff - internal staff** (including permanent and direct contract staff); **Tier Two staff - stable extended workforce** (from human resources agencies) and **Tier Three staff - newly hired external workers** (including workers from human resources agencies, sub-contractors, partners, and offshore or overseas resources). Tier One staff retain the core organisational culture and competencies (including project management), take senior positions of client IT projects and own all finance-related tasks. Tier Two staff are the stable EWF of C2-VD; they have learned and adapted the organisational practices after staying on project(s) for a few years. They are retained to diffuse the project management and organisational knowledge to those temporary Tier Three staff who basically contribute their skills to the projects and learn the organisational knowledge on the job. Most of the knowledge from the Tier Three workers is captured and diffused to the organisation through the Tier Two staff, but some expert knowledge may be retained intentionally by the Tier One staff. Therefore, learning happens in the process of IT project execution through the three-tier structured project teams. However, single project learning is easier than cross project learning in the IT services business unit’s environment as its projects are executed at different locations. Project teams are geographically distributed, and most teams stay on site at the customers’ premises. Nevertheless, project knowledge sharing within a project is project manager dependent. There are no specific guidelines of what should be shared or learned within a project. For cross project learning, it may be easier if the projects are owned by the same project director or manager.

“**At project level, internal knowledge sharing is done informally**” Participant C2.F.

“The easy way to have [cross project sharing] result is when projects under a project director or project manager have similar issues of similar nature. The result will be more visible as it is under the same tree” Participant C2.F.

Of course, cross project learning happens naturally when the human resources move from one project to another. Participant C2.A sees this people movement process results in “**the whole organisation’s capabilities have been increased**”. Practically, most of the project knowledge sharing is informal and within a small group such as among projects owned by the same project director. Regarding learning
across the whole IT services business unit, there is an informal solution architect forum. It was newly set up when this case study’s interviews were conducted.

“We initiated a solution architect forum. Participants share reusable materials and tools and create intellectual properties [...] colleagues may find something interesting or new from others. This is a way to enhance everybody’s ability” Participant C2.E.

Participant C2.F was one of the initiator of the forum and is eager to look for positive outcomes from it. However, Participant C2.C is not optimistic about the forum’s future. He says that, “There is not enough motivation to encourage participation [and] one of the major obstacles that hinders cross sharing is that we are mostly working on-site at customers’ venues”. Job rotation within the IT services business unit is another means to expand the scope of learning and allow an IT professional to understand more about a business unit. However, job rotation is only eligible for permanent employees. The organisational structure of C2-VD (see Figure 7.2) has a permanent IT employee normally reporting to a practice manager or the pre-sales team manager. One usually moves around those projects under the same practice manager. Job rotation is about reporting to a different manager. This results in a change in specialisation because each practice is specialised in the delivery of certain technology or business domain, and the pre-sales team is selling rather than delivery oriented. The business operation manager, Participant C2.E, sees this is as a practice to let the colleagues to learn different management styles on top of expanding the technical and business exposures. The last group level learning is new hire facilitation. Most of the new hires at the group level (business unit or project level) are IT workers from human resources agencies or other external parties (Tier Three staff). As mentioned by Participant C2.B, new hires are put on projects to work at customer sites almost immediately; therefore, orientation of new hires are handled at the project level. The practices are project manager and project director dependent. However, Participants C2.B, C2.D and C2.F have mentioned new hires are hand held by senior staff such as project manager or project leaders. Project director, Participant C2.C, further elaborates that these senior staff can be the stable EWF (Tier Two staff). This is a learning opportunity to both the new hires and the stable EWF. Some master and follower pairs may be established at project level as well.

“A more common way to bring up capability is the [...] practice [of] master and follower pairing. When we have new EWF on board, they will be led by some experienced staff [including EWF] and learn from the senior colleague” Participant C2.C.

At the organisation level, the IT services business unit is just one of the many business units under one of the seven business segments of C2-VD. However, the nature of its IT projects makes it necessary to cooperate with different business units to deliver a client project. It is common that this business unit plays the integrator role of a cross business unit IT project. Due to the complex
organisation structure of C2-VD, the cross business unit project coordination role cannot be handled by contingent project managers. Permanent project directors or project managers of IT services business unit are in charge. Cross business unit learning happens when different sub-project teams from different business units interact with one another. There is no official cross business unit project management learning in C2-VD. Another way to acquire knowledge beyond one’s current business unit’s knowledge is by transferring the headcount to the other business unit of interest. This is a more proactive arrangement; it is not an annual job rotation exercise. However, because of organisational re-structuring, there is the likelihood that some of the staff’s reporting lines will change over time, or some business units’ boundaries will be restructured. These are also opportunities for one to move to a new business unit with new measurements and learn from new managers. Last but not least, C2-VD senior management and leaders of the various business segments jointly host periodic coffee talks to update all employees regarding the news of the corporation and performances of the different business segments of C2-VD.

The above explains the social processes of learning in C2-VD across the three levels (individual, group and organisation).

7.5.2.2. Reflective processes
Reflective processes are about “the factors relating to the obtaining and giving of individual feedback, the assessment discussion of groups and the drawing of conclusions as well as the continuous evaluation for promoting the development of the whole organisation” (Järvinen & Poikela, 2006, p. 182). The most mentioned reflective learning at individual level is informal coaching from the people manager. Participants C2.A, C2.B and C2.C believe that although there is no formal mentoring or coaching to contingent workers in C2-VD, the people manager or senior colleagues are willing to coach and mentor junior colleagues if they are willing to learn. This is a key role of the people manager (see Section 7.3.2.1). Moreover, every project is made up a new mix of internal staff, stable EWF, newly hired contingent workers and staff from other parties (see Section 7.2.3) in the IT services business unit of C2-VD. Participant C2.A sees it is good learning opportunity for individuals to learn from colleagues coming from different backgrounds; “project team members can learn something from [external workers] in their disciplines or scenarios. This is a plus to the project team”, says Participant C2.A. From another perspective, Participant C2.D encourages self study. He sees contingent IT professionals should help one-self “no matter learning, taking courses or developing your career”.

Group level reflection happens in the form of formal IT project delivery assurance reviews and ISO process compliance audits. The business operation function of the IT services business unit has qualified DA manager and QA persons to review IT projects periodically (see Section 7.3.2.2). The delivery assurance review focuses on IT project execution issues and quantitative measures such as
cost, revenue, payment collection and schedule. A quality assurance review is about the compliance to its ISO process.

“When we conduct our monthly DA reviews […] contingent project manager and PD will need to attend [...] If business operation spots out projects managed by contingent project managers have financial issues, we will first approach the PD, our permanent staff” Participant C2.E.

“Being an ISO certified group, our QA team will ensure project managers follow the ISO processes and documentation requirements” Participant C2.B.

Within the IT services business unit, a people manager (see Section 7.3.2.1) is assigned to individual IT staff (including internal and agency contingent workers). It is a business unit specific practice. Therefore, the people manager function provides informal coaching and feedback to IT staff and is the second reflective learning at the group level. The third group level reflective learning practice is specific for agency contingent workers. These workers do not participate in the organisational level annual formal performance evaluation, but they have EWF performance feedback from their people managers who collect evaluation forms filled in by the project managers or project directors that the contingent workers have interacted with in the past contract period. Participant C2.E says that depending on the contingent worker performance, “a good performer and [we will] decide if we extend his or her employment contract or not”. Having formal project closure as a mandatory event is another reflective learning practice. Every project must go through a formal project closure exercise to capture and document lessons learned. At project completion, all project documents including “post mortem reports and project evaluation reports” are archived to the business unit’s project archive directory as per Participant C2.D. Permanent staff have access to this directory but not contingent workers. Lastly, Participant C2.C has mentioned reusing deliverables as a mean of learning. Participant C2.C sees “if the same group of IT professionals keep working on government projects, they can copy and paste a lot of things and become efficient labour”. It is not only a way to reduce cost but also a way to learn from previous projects and avoid repeating mistakes. This improves the overall work efficiency.

The organisation level reflective learning is in the form of a formal project assurance process led by the corporate PMO team. C2-VD has a member of the global PMO team stationed in Hong Kong to review and support projects from pre-sales through delivery if they exceed certain thresholds in terms of dollar amount or other measures such as risk impacts. The function of the PMO has been discussed in Section 7.3.2.2. The second organisational level reflective learning is the formal performance evaluation of permanent staff. “For permanent staff, every year we need to have performance evaluation and ranking exercise. Managers need to propose promotions and put forward for upper management approval”, says Participant C2.C. It is a corporate-wide annual exercise. The direct
report manager collects feedback from various parties who have interacted with the permanent staff in the past year. The feedback and the ranking outcome are communicated to the staff after the exercise. The coming year’s career development plan is also discussed at the same time. Lastly, every few years, the corporation performs a global employee survey to collect its workforce’s view on the performances of management. The relevant survey results (such as those of C2-VD organisational level and IT services business unit Hong Kong section) are shared with relevant employees. Improvement action plans are designed and implemented locally. Improvement outcomes are tracked and reflected back to the corporate level periodically.

The above explains the reflective processes of learning in C2-VD across the three levels (individual, group and organisation).

7.5.2.3. Cognitive processes

Cognitive processes are about “the production, sharing, transfer and recording of knowledge and new models or concepts coming from the employee, the group and the whole organisation. Experience-based knowledge, to which has been added externally acquired knowledge, is at this stage refined into more general knowledge for the organisation's databases” (Järvinen & Poikela, 2006, p. 182). Formal training is one of the key cognitive learning processes at the individual level. With the IT services business unit of C2-VD, the IT staff have job-related training regardless of the employment status. Some are formal training programmes such as the PMP® training, others may be in-house training such as the business unit specific ISO process training organised by the QA lead. However, Participant C2.D feels contingent IT workers should pay for external training. In practice, ‘training opportunities priorities will definitely be given to permanent staff’, says Participant C2.E. With technology advancement, more training in C2-VD is web-based training. It is a newer form of cognitive learning. These training courses are limited to permanent staff only, and they must attend certain web-based training courses each year as part of the corporate policy. Obtaining formal qualification is the third cognitive learning practice. Other than formal training or web-based training, at least three participants (Participants C2.B, C2.C and C2.D) have mentioned IT professionals used to take IT related master programmes or sit for industrial recognised IT qualification examinations to improve their marketability. From a project management skill learning perspective, the PMP® of PMI is the most popular programme and has sponsorship from the organisation for training and examination fees. As per Participant C2.B, the resource manager, customers demand competent individuals, not the team a whole (see Section 7.4.5.1). Individual-based IT qualifications are important for IT professionals to prove his or her professionalism. Nevertheless, the accumulated creditability gained from one’s performance on the job is still seen as the most important thing that secures an IT professional’s job, not other qualifications.
“It is performance that determines a contingent worker’s employment renewal or any person’s new job assignment” Participant C2.A.

Contingent IT workers are found to be more stable if they work on projects where they can learn advanced technology (Participant C2.C) and if they are sizable ones (Participant C2.F). This is because they can learn marketable skills, have their names attached to sizable projects and thus accumulate creditability having future opportunities.

At the group level, learning from formalised project management methodology is the key. Like most large organisations, C2-VD has a project management methodology for its projects. Its IT services business unit localises the corporate level project management methodology and obtains the ISO certification to be the business unit’s project management standard. All project managers (including contingent ones) must understand the requirements of the ISO processes; follow the guidelines and utilise the templates to run the IT projects. The QA lead of the business operation team conducts training classes on an as needed basis to educate new project managers and future project managers.

“Our [business unit] is ISO certified, and all our projects follow our project management methodology” Participant C2.A.

“All projects have to follow our project management methodology (or ISO process) to track on all project activities. These are the key ways to reduce the risk of knowledge drainage with people leaving the project” Participant C2.E.

This is also the way to retain organisational knowledge when the temporary nature of contingent employment is taken as a key resource management strategy. Therefore, C2-VD has a major investment on both maintaining the project management methodology and building an appropriate organisation structure to ensure it is executed. Section 7.3.2.2 has described the set up of the business operation team containing DA and QA resources to proactively track and audit IT projects. The PD role by the permanent staff (see Section 7.2.3) is also in place to ensure even if a project is run by a contingent project manager, the project management and organisational knowledge can be transferred from the project director. The PD role is central to retain and transfer such knowledge. Moreover, project documents are required to be properly filed and archived upon project closure, and all project team members’ profiles are updated and saved in the knowledge management repository. These practices not only ensure the quality of the projects and retain the project knowledge but also bring up the project management knowledge of the whole group (IT services business unit). Moreover, older project documents can be referenced by new projects, and human resource capabilities are up to date. Within the IT services business unit, there is high awareness of its own ISO processes among project
participants, not just at the project manager level or above. Nevertheless, Participant C2.F feels the ISO processes are not good enough to help project managers to leverage outcomes from other projects.

“Even today, as a permanent staff, I still ask colleagues for help to search here and there to look for some samples or references. ISO is not enough. It only provides templates that are empty forms but not references [contain some] common elements [of similar deliverables]” Participant C2.F.

He may try to search the project archive directory for what he wants. However, he believes it is better to ask the colleagues through his personal networks instead of spending the time to search the archives.

“There may be project archives of other projects on some shared drive […] However, when I need to do something for the first time, I [always] ask other colleagues [if they have such documents]” Participant C2.F.

Moreover, the project archives are restricted to internal staff access only. Learning from previous project’s documents is more difficult for contingent project managers. Lastly, the IT services business unit has clear contingent workforce policies with a career path and job levels. Stable EWF and good performers are given more opportunities to join formal training and company events that help to pave their way to be promoted to next level job or even be converted to be permanent staff. They are on the priority list for permanent job openings.

“In our group, the career path for EWF includes job level promotions and conversion to be permanent staff. In recent years, whenever there are job openings, we always convert existing EWF to fill the roles. We seldom go for external hires” Participant C2.E.

This practice, in fact, is essential to retain organisational knowledge. Participant C2.E sees those newly converted permanent staff “know the company culture and management style” after working in the business unit for some time, and the accumulated project experience stays within the organisation.

Regarding cognitive learning at the organisation level at C2-VD, there has been heavy investment on project management methodology and knowledge management. There is a global project management methodology that applies to all IT projects. It is the foundation of all localised project management methodology. There is a team in the corporation that periodically organises project management university training classes at different locations around the world. Participant C2.E had attended the class before, and she found it useful for her to network with other colleagues from other countries. On knowledge management, there is a sophisticated global knowledge management system to capture
project information globally. Participant C2.E believes that “keeping proper records is definitely a way to retain the project knowledge. We always have a knowledge management system to capture the knowledge”. From the organisation structure perspective, the PMO and knowledge management team are resourced at appropriate level to ensure the project management methodology and knowledge management processes are executed. Participant C2.B also is the KM lead role in the business unit under study in addition to her resource manager role. These responsibilities ensure project and organisational knowledge are properly captured and documented. Furthermore, corporate policies and guidelines are leading the cognitive learning activities of C2-VD. Some of the mandatory training of permanent staff is about policies and guidelines that permanent staff must understand such as standards of business conduct. Human resources policies, training guidelines, performance measures, global job levels, headcount management, salary and promotion guidelines, financial approval rules, measures and metrics and contingent employment policies are under the corporate umbrella with some localisation at C2-VD. All these policies, guidelines or rules have an impact on the organisational level and group level management how to operate the business within their charter. Any changes at the corporate level have a direct impact on the local operations. The learning model and room for investment in training, development and knowledge management at C2-VD are subject to similar rules, policies and guidelines at the corporate level.

Cognitive processes of learning in C2-VD across the three levels (individual, group and organisation) are explained above.

7.5.2.4. Operational processes
Operational processes are the “continual experimentation and testing of new practices on the part of both individual employees and work groups and departments. From the perspective of the organisation, this means that the new practices become firmly established” (Järvinen & Poikela, 2006, p. 183). The human resources strategy of the IT services business unit has stressed maintaining a pool of stable EWF. Participant C2.C says that it is clear that C2-VD cannot retain individual workers by providing more money; instead C2-VD is by giving opportunities to do what they want on the job. Some may look for a larger project (Participant C2.F), and others may look for advanced technology (Participant C2.C). Individuals seek opportunities to accumulate marketable skills, knowledge and experience. The veteran contingent workers, Participants C2.D and C2.F, agree that the business unit have given them opportunities to learn on the job with coaching. In particular, Participant C2.F appreciates the expanded exposure he gained after he was converted to be a permanent employee.

“My job nature has expanded [...] Now, [...] I am part of a large global organisation. [...] I really appreciate the expert who flew in and demonstrated how he did the job [...] I see this is really an
opportunity that only permanent staff can have it. This is a very good experience” Participant C2.F.

In fact, any IT professional’s career advancement in the business unit under study is all well planned, and the career path may be laid years earlier.

“Behind all these [promotion] cases, we need to lay the path. We need to assign the systems analyst to be deputy project manager role [...] After a few years, he or she can be promoted. It is more than just learning the required skills” Participant C2.C.

Those who are found to have potential to move up the career ladder are given some roles to increase their skills and to experiment with ways to perform the next level’s tasks. The people manager works along with the individual and provides necessary coaching when he or she experiments with new practices.

At the group level, continuous advancement of IT project execution is driven by the business operation team and the PMO. As part of the IT services business unit ISO processes and corporate project management methodology, the processes are periodically reviewed and revised. The QA lead of the business operation team and PMO manager periodically collect process users’ feedback, revise the existing processes and put it into experimentation. Moreover, with a few major mergers and acquisitions in the past decade, C2-VD has undergone organisational re-structuring following the corporate reorganisations. The business nature and project content may have changed over time. The project management methodologies have to be aligned. When the case study interviews were conducted, one major merger and acquisition had just been completed. The IT services business unit was going to adopt the ISO and KM processes of the newly merged in company. Therefore, the operation of IT services business unit continues to be driven by the organisation and business unit level changes and experiments. The business operation team and the PMO are the functions that drive the changes, collect feedback and implement necessary rectifications.

The situation at the organisational level is similar to that at the group level. The global project management methodology is stable, generic and applied globally. However, related rules or guidelines may change over time, such as the threshold determining if a project is under the PMO monitoring. The organisation re-structuring has impacts on business units’ realignments, and thus some practices may be changed. C2-VD has been undergoing cycles and adaptations. It continues to seek operational enhancement and maturity improvement to face the vigorous market challenges in the IT market while implementing organisational change. Major changes are driven by the corporation with some incremental changes driven by local market situation. Experimenting new policies are ongoing.
The above explained operational processes of learning in C2-VD across the three levels (individual, group and organisation).

6.1.2. Achieving IT project management capability enhancement

Analysing the organisational learning practices of C2-VD (see Table 7.7) illustrates how C2-VD manages to drive for continuous IT project management capabilities advancement so as to face the keen competition in the market. From Section 7.5.1, it is clear that C2-VD has put in a lot of effort and investment to improve the IT project management capability.

6.1.1.1. Cognitive processes
As with many large organisations, C2-VD has strong cognitive learning process experience through a strong corporate influence on its cognitive learning. Policies and guidelines, project management and knowledge management methodologies are centrally established with a certain level of localisation. There are heavy investments in infrastructure (such as KM system) and organisation structure (such as PMO, KM roles). At the group level local business units, adopt corporate practices, policies and guidelines to establish local methods. C2-VD has the business operation team (including RM, KM, DA and QA roles) to support organisational learning; a process for formal learning of permanent staff is in place. Local EWF practices are also established to retain their stability. All these ensure core competencies are retained within the organisation. The key weakness in the cognitive learning processes is that contingent workers have no access to knowledge management systems and the project archives, and they have fewer formal learning opportunities.

6.1.1.2. Operational processes
C2-VD’s corporation invests heavily in operational learning processes as part of the global project management methodology, and it imposes new policies and guidelines to drive operational efficiency improvement. C2-VD also adapts the changes locally and seeks operation maturity improvement. The local PMO and business operation team are the key drivers to experiment all the changes. The IT staff (including internal and external staff) have opportunities to experiment with new practices (processes and technologies) and enjoy job enrichment. C2-VD has put in place organisation learning practices from operational learning perspective.

6.1.1.3. Reflective processes
In C2-VD’s environment, it has to seek continuous efficiency improvement. Therefore, it always actively reviews its business performance and operation effectiveness, which in turn played some key roles on its reflective learning processes. Both the organisation (through the PMO) and the IT services business unit (through the business operation) put stringent controls on project delivery assurance such as regular projects reviews and escalations. C2-VD also stresses on feedback at individual level by enforcing periodic performance reviews. However, there are two key weaknesses in C2-VD’s
reflective learning processes. At the individual level, there is the lack of formal mentoring and coaching for most staff except some permanent employees undergoing a leadership development programme. At the organisation and group level, reflections are done in a one-to-one format. The PMO or business operation people review projects one by one, and project closure is done by the project team of the project. The PMO and the business operation team focuses on the responsibility to share the lessons learned. Project directors managing multiple projects may also play the same role but cross project sharing is an individual project director’s practice. There is no formal cross project reflective learning in C2-VD.

6.1.1.4. Social processes
Relative to the cognitive, operational learning or even reflective learning processes, C2-VD is weak in its social learning processes. The physical environment hinders C2-VD’s social learning. At the organisational level, there are a large number of business functions under multiple business segments. Relationships among business units are dependant of cross business function projects. Even if there are such projects, similar to the IT services business unit under study, every project is a new mix of people (including a significant number of external workers), and projects typically are working at different geographic locations. It is therefore difficult to have a close social network within a business unit, not to say across multiple business units. Participant C2.C stated that, whenever there is a system integration project that needs cooperation of multiple business units, the project director or permanent project manager has to play the integrator role to “navigate the different departments or functions in the organisation”. This suggests that social learning is a difficult task for C2-VD. Some informal people networks may be incidentally established (see Section 7.6) as people move around projects or tasks.

Informal establishment of a community of practice (CoP) (Walker & Christenson, 2005) such as the solution architecture forum, may occur from time to time trying to share knowledge across projects within a business unit. However, without a formal structure or organisational facilitation, it is difficult to achieve satisfactory outcomes. In addition, the working locations of IT workers are geographically distributed; face-to-face sharing is difficult. Although virtual sharing is technologically feasible, lack of motivation for knowledge sharing or cross ownership is the main hindrance to C2-VD’s social learning.

“Today, in our group (business unit), nobody is taking the lead for cross sharing for the whole group” Participant C2.C.

From the analysis of C2-VD’s organisational learning practices in Section 7.5.1, it may be concluded that codified knowledge in the form of policies, guidelines, procedures and standards play a key role (cognitive learning processes). Continuous enhancement is part of the requirement of centralised
project management methodologies (operational learning processes). C2-VD has put in the necessary infrastructure and organisational support for these two learning processes. The reflective learning practice on the human side is also strong as the people manager role has been put in place at the group level. However, there are some deficiencies. There is no formal mentoring or coaching, and cross project learning is project director dependent. In these three learning processes (cognitive, operational and reflective), the centralised project assurance bodies (PMO and business operation team) play critical roles. They assure the project management processes are executed, project outcomes are achieved and lessons learned are diffused in the organisation. Social learning is centralised around the three-tier resource structure (see Section 7.5.1.1). Learning happens across the three tiers, but the core competences are retained as much as possible in Tier One (by permanent employees). These workers have learning opportunities in all the four processes. For workers of Tier Two (stable EWF) and Tier Three (newly hired external workers), their learning is mainly through social and reflective learning processes. They share most of the learning opportunities in social and reflective learning processes with Tier One staff except some of them such as job rotation across business units or project reviews involving finance data. Unfortunately, the social learning process of C2-VD is relative weak comparing to the other three learning processes. There is a lack of facilitation on social learning, and the informal ones do not have much success. It has to do with the geographically distributed project environment, the diverse business nature of C2-VD, the mobility of the unstable contingent workers and the lack of motivation. In summary, the organisational learning model serves the purpose to support the human resources strategies of C2-VD to run its IT projects with heavy reliance on external resources. However, the contingent workers, especially the Tier Three ones, are at a disadvantage in this approach.

6.1.3. Achieving project and organisational success

In the literature survey chapter, a multiple process views of IT projects from Sauer & Reich (2009) is presented (see Section 3.2.3.3). The model values multiple ways of constructing and interpreting what IT projects are about, what is going on within them, and what techniques and approaches may be appropriate for managing them. It is a contemporary model containing six processes to interpret project management success and failure. They are the action process, social process, value creation, reflective practice, project as a knowledge process and project as an emotional process.

First, from the action process perspective, C2-VD performs well. It takes control and monitors the project management processes. It has established the processes (ISO) and governance structure (PMO and business operation functions) to guide and monitor projects from the pre-sales, delivery through maintenance and support stages. Measures and metrics are in place to guide the project managers to deliver projects. The IT projects’ status has high visibility in C2-VD. From a social process perspective, C2-VD has been identified to have weak social learning processes (see Section 7.5.2). Within one project, C2-VD has capitalised the combined social capability to achieve the project goal.
as a new project always bring in experts and capabilities from multiple sources including internal employees, stable EWF and other new external workers; each project is a new mix of new project team members. However, there is no official facilitation to encourage cross project learning at the group (business unit) and organisation level. The third process is value creation. The measures and metrics applied in C2-VD are mostly financial outcome related. The project measures (such as project profit, revenue and cost) are aggregated to be the project directors’ measures. They are further included with the business unit’s performance measures. The focus is more on the ‘iron triangle’ of project success (time, cost and quality of project outputs). There are other measures such as repeat business from the same customer and customer satisfaction survey outcomes. An increase in market reputation and position in the Hong Kong IT sector are also seen as outcomes of visible projects. However, these are softer measures, which are tracked less frequently in C2-VD. In the fourth process - reflective practice -- Section 7.5.2.3 has mentioned that C2-VD has the PMO and business operation function in place to seriously execute the reflective practices at the project level. At the individual level, the people manager function is in place to provide feedback to all staff. The key weakness is no formal mentoring and lack of cross project reflective learning. The fifth process, project as a knowledge process, which is central to the organisational learning model of C2-VD has a three-tier resource structure (see conclusion in Section 7.5.2). Tier One permanent employees retain organisational culture and core competences; the Tier Two stable EWF diffuse internal and external knowledge; and the Tier Three newly hired external workers contribute their knowledge to the projects. Other than retaining knowledge by people, C2-VD’s strong cognitive and operational learning processes stress proper documentation. Codified project knowledge is captured by the project archive directory, project management methodology and knowledge management system. Lastly, the sixth process is project as an emotional process. This is how IT projects help to create trust and commitment of project participants toward the projects and the organisation. In C2-VD, the human resources policy to treat contingent IT workers as close to permanent workers where possible has successfully kept a pool of stable contingent workers as the stable extended workforce. They normally stay with C2-VD for over three years (see Section 7.1.2). With time, some of them are converted to become permanent employees of C2-VD. This was illustrated by a pool of contingent IT workers (40% of the total agency contingent workers) who feel comfortable to stay with C2-VD after working on C2-VD’s projects. In Section 7.4.2, one of the positive impacts of being a C2-VD’s contingent worker is that he or she can enjoy a ‘happy working environment’. In practice, the people manager function in the IT services business unit of C2-VD is specifically designed to take care of the emotional side of staff. All these reflect that C2-VD is well planned to take care of the emotional feeling of workers on projects.

It may be concluded that C2-VD has partially adopted contemporary IT project management practices and culture. It has expanded its definition of project management success to beyond the action process to include the reflective, knowledge and emotional sides. However, the social process is relative weak;
the keen market competition and price pressure also suppress C2-VD from focusing on the long-term value creation. Nevertheless, C2-VD’s IT services business unit has achieved business success and has won business by utilising their organisational learning model and human resources strategies.

6.2. **Developing and Maintaining Social Capital**

In the literature survey chapter, when discussing social capital of IT projects (see Section 3.4.6), there is a saying that IT relies on ‘outsiders’ for the completion of the projects; the core people capability may not be its retention capability, but its “capacity to access, maintain and develop a highly skilled and motivated work force over time, although the individuals in it come and go”(Bredin, 2008, p. 570). This is highly applicable to C2-VD. Its business is highly reliant on the capability of people to deliver successful client projects; at the same time, it heavily relies on contingent workers as its workforce to deliver these projects. This section is going to analyse the ways C2-VD captures the potential through its social networks to develop its social capital. Three sets of networks are identified according to information from the six participants of this case study. They are the project director trees, the organisational networks and resource networks.

6.2.1. **Project director trees**

Referring to the high-level organisation structure of C2-VD in Figure 7.2, an IT project is owned by one practice but uses resources drawn from multiple practices. It is in a form of matrix organisation. From another perspective, project directors reside within practices; one project director runs a number of projects simultaneously. The project director tree structure with the project director taking the central position is illustrated in Figure 7.3. From the project perspective, a project team is a network of project team members made up of three tiers of workers (see Section 7.5.1.1), and they interact within a project on day-to-day basis (refer to a circle in Figure 7.3). A project director owns all the project measures and plays an even more important role when the project manager is a contingent one (see Section 7.2.3). Every project director, similar to owning a small business unit, leads a pool of resources (including Tier One to Tier Three IT workers) to deliver client projects. Under the matrix organisation structure, there is a possibility that some resources are loaned or borrowed from other project directors from different practices. However, if a project director can fully utilise his or her own Tier One and Tier Two IT workers in his or her own projects (under the same project director tree), the priority of loaning these workers is low. Practically, these workers are specialised in the practice of the project director. Working in other practices means there are overhead costs in terms of learning new skills, technologies or domain knowledge. The Tier Three resources by nature are mobile and have generic skills. The resource manager can assign them to any projects if the skill and availability of the workers can be used. A project director, however, has flexibility to move resources among projects or share some scare resources among projects under his or her project director tree. Nevertheless, each project is executed at different locations; there are few contacts among projects...
except through some common resources or informal people networks that are established as the IT workers move from one project to another (under the same project director tree).

![Case study two project director tree structure](image)

Figure 7.3: Case study two project director tree structure

During the case study interviews, none of the six participants mention ‘social capital’. However, Participants C2.A, C2.D and C2.F mentioned project knowledge or that contingent workers’ knowledge may be better utilised or retained if the project director has the view to leverage knowledge from EWF and share people or project knowledge across his or her projects. Participant C2.A believes that “[..] the strategy of absorbing knowledge from EWF [..] depends on the project director’s view”: Participant C2.F also sees that “the result [of cross sharing] will be more visible as it is under the same [PD] tree. […] PD knows what happened in projects under his or her tree; experience sharing is possible under such circumstances”.

The project director tree structure under one project director forms its own social network across a few projects. The project director is not only the key person to maximise its resources for project efficiency but also is the key person that determines if the EWF pool is stable or not (as per Participant C2.E). Not every project director has a stable pool of EWF (Tier Two staff). Participant C2.D agrees with this view, and he sees that his work life as a project manager is dependent upon the project director and not dependent upon his contingent employment status. It may therefore be concluded that contingent workers are loyal to project directors and not to the C2-VD organisation.

“People depart for different reasons. I see it is manager dependent [..] Only one to two project directors are able to maintain a pool of loyal EWF; others cannot achieve this” Participant C2.E.
“I see [...] my direct report managers’ (project directors) trust have greater impact on me, not my contingent employment status” Participant C2.D

Having a stable human resources pool is critical to the success of C2-VD’s projects under the IT services business unit, and stable EWF (Tier Two staff) are key roles in absorbing organisational practices from permanent employees (Tier One staff) and transferring them to newly hired external workers (Tier Three staff) under the three-tier resource model. From this perspective, it is critical for a project director to maintain a good social network of project team members, provide training and development and facilitate cross project knowledge sharing so as to “maintain and develop a highly skilled and motivated” (Bredin, 2008, p. 570) project director tree over time. Networking across project director trees is not easy, but it is an area that may be worthy of further studies if some social capital has been lost.

6.2.2. Resource networks

Participant C2.B is the resource manager of the IT services business unit of C2-VD, and she reports to the business operation manager. Her major duty is to deal with all the initiation and departure processes of agency contingent workers. By the time this case study’s interviews were conducted, there were about 150 contingent workers serving the business unit. Participant C2.B estimated that 60% (90) of them were unstable. Therefore, she always has numerous outstanding job postings to be filled by resources from the human resources agencies. Other than searching candidates through the agencies (refer to the hexagon in Figure 7.4), she always searches the resource networks. Figure 7.4 below is an illustration of the resource networks that she accesses on a daily basis. Those scattered networks (refer to the stars in Figure 7.4) had been established over the years when she assumed the role as resource manager of IT services business unit of C2-VD. People join and leave the organisation, but the resource manager captures their work history. From time to time, she calls those candidates with capabilities to fill certain job openings and asks them to provide an up-to-date resume to her no matter if the candidate has an interest in the current job opening or not. If a potential candidate cannot join C2-VD for that moment, she may ask the candidate to introduce other candidates to her with similar capabilities. Each potential candidate has his or her own social network of friends or ex-colleagues having similar skills, experience or academic background (refer to a star in Figure 7.4). This is a snowball method and is the way the resource manager builds up her scattered social networks of ex-contingent workers, potential candidates and current contingent workers. This is the social capital on the “the capacity to access” (Bredin, 2008, p. 570) capable resources.
The resource manager function is a major function in the IT services business unit of C2-VD. She serves all the project managers of the business unit, and therefore, she is the person who has information of what skills are in demand and the market rates of different job profiles.

“In our annual planning meeting, we asked our resource manager to look at hot skills required such as what skills are demanded in the latest resource requests or on tenders” Participant C2.E.

If the resource manager has difficulty to identify the necessary resources from these networks, the business and operation of C2-VD may be adversely affected. Some bids may be unable to be submitted, or projects cannot be undertaken because the right resources cannot be identified in a timely way. Participant C2.B (the resource manager) understands clearly that “When bidding a project, we must have the necessary resources. As we win it, we must have the people in place”. Nevertheless, the resource manager role has been too busy and has not capitalised these resources networks, even some communication practices to share information are no longer followed.

“In the old days, there were at least one gathering of all EWF to share the progress and development of the company or their own IT group, but this rarely happens nowadays” Participant C2.C.

As the resource manager has access to the extended networks of current, previous and potential contingent workers of the IT services business unit of C2-VD, if she has more time, she can help
improve the social learning processes of C2-VD. She can learn more about the needs of contingent workers with more contacts with the existing EWF, instead of just contacting them at the employment contract renewals. Some communication sessions with contingent workers may help them to understand more about C2-VD and its future. She may also take a more proactive role to support the business of the IT services business unit such as collecting labour market supply, demand and labour rate data through the human resources agencies. There are better ways to fully capitalise the resources networks of C2-VD.

6.2.3. Organisational networks

In C2-VD, the permanent staff (Tier One staff) always assume the senior IT positions. They are likely to be involved in more complex people networks within or even beyond the organisational boundary. A permanent employee has greater opportunities to play multiple roles (refer to circles in Figure 7.5) or to work on multiple projects (such as pre-sales and delivery work). Therefore, they have more opportunities to interact with other business units’ colleagues or other overseas colleagues under the same corporation (refer to the oval in Figure 7.5). Access to overseas colleagues or experts is supported by the global knowledge management repository that captures the profiles of experts globally within the corporation.

Moreover, permanent employees also work with contingent workers on projects. Gradually, they also build up some small networks of ex-colleagues (refer to stars in Figure 7.5) with various skills and experience. In addition, permanent employees of IT services business unit have opportunities to bid projects or deliver large scale projects. They have opportunities to represent C2-VD to deal with external parties (refer to the hexagon in Figure 7.5) to negotiate co-work arrangements and even pricing or contractual details. Therefore, the aggregated social networks of the permanent employees of C2-VD are the organisational networks of C2-VD as represented by Figure 7.5 above. It is because of this complexity that the permanent project director or project manager always owns the internal cooperation role if a project involves other business units or external contractual parties. Contingent project managers have fewer chances to deal with complex networks.
Contingent workers in C2-VD can only be a member in a circle (a project) or a star (a network of resources of similar skills). They have limited exposure in a large organisation like C2-VD, such as lack of access to the corporate resources. Participant C2.F has moved from the role as a member of a project director tree (see Figure 7.3) and a resource network (see Figure 7.4) to be a permanent employee among the organisational networks (see Figure 7.5). He finally finds he is “part of a large global organisation”. Contingent workers may not be bounded by the organisation boundaries, but by their social networks that limit their exposure and hence career advancement. Therefore, Participant C2.D agrees there are “dead ends of [being] a contingent project manager” in C2-VD.

In summary, three types of social networks exist in C2-VD. The effectiveness of utilising the networks to generate social capital or retain organisational knowledge within C2-VD is highly people dependent. The key people such as project directors (in project director trees), resource manager (in resource networks) and permanent staff (in organisational networks), determine the social networks’ effectiveness. However, not every project director actively facilitates cross project learning; the resource manager is busy recruiting new contingent workers and negotiating employment contract renewals of agency contingent workers. There is limited social time to ‘network’ with the resource networks. The permanent employees’ social network is limited to the individuals’ personal work environment; those employees focus on project delivery rather than pre-sales work and do not have frequent contacts with the external parties or overseas experts. Practically, the organisational networks are not easy to navigate if the personal networks have not been established. Moreover, there is a lack of overall social learning processes in place to encourage cross learning from others in C2-VD (see Section 7.5.1.1). The potential of the social capital generated by the various social networks have not been fully utilised in C2-VD. However, IT is an extremely fast moving industry, therefore, learning
new technologies and practices are essential to keep changing and adapting in the new world. The permanent employees have to learn faster and learn more compared to contingent workers in order to retain the organisational competence. C2-VD may consider providing better facilitation for its permanent employees to connect with the internal and external parties to learn from one another through these social networks - the organisational networks, project director trees and resource networks. As suggested in Section 7.6.1 and Section 7.6.2, the project directors and resource managers can do more to facilitate cross learning among projects and among all C2-VD’s IT professionals (Tier One, Tier Two and Tier Three). At the organisation and group level, C2-VD and the IT services business unit can help to improve the social networks with external parties and internal overseas experts. Some periodic exchanges on latest technology development news, development of the IT sector in Hong Kong, latest activities of these parties and others will provide opportunities for the permanent employees to extend their social network to beyond their job and project boundaries. The ‘coffee pot’ mentioned by Participant C2.F is a good example. It is a C2-VD’s site update session, and all permanent employees can join. C2-VD may also increase the sponsorship to beyond job-related professional certification and its training courses. It may encourage permanent employees to participant in IT industrial bodies and take some active roles to represent C2-VD to present in seminars and conferences. These facilitations may help to build up the social capital of C2-VD.

6.3. Learning Beyond Organisational Boundary

“Our [business unit’s] business operation is just like a boat that flows along a river. It passes by different places. On the way, it takes in new knowledge, skills and captures capable resources to be part of our community [permanent staff pool]” Participant C2.A.

Participant C2.A believes that the IT services business unit’s success has been its ability to take on ‘public knowledge’ (that is knowledge not unique to any one firm but resides in the external environment); blend with its ‘private knowledge’ (that is knowledge unique to the firm and a source of competitive advantage) (Matusik & Hill, 1998, p. 683) to develop its new ‘private knowledge’ and retain it in-house. C2-VD’s knowledge is well beyond the aggregated sum of its permanent staff or beyond the organisational boundary. Participant C2.E says the IT services business unit of C2-VD has adapted contingent employment as the human resources strategy on client project delivery for many years. Domestic outsourcing and offshore outsourcing are the recent trends. Thus, it is clear that C2-VD has been and will continue to rely heavily on external resources or knowledge beyond the organisational boundary. In order to maintain the competitive edge of C2-VD in a highly dynamic and price sensitive market, it must practice continuous learning, which has to be beyond the organisational boundary.

Table 7.7 summarises the current organisational learning practices of C2-VD based on Järvinen & Poikela (2006) model. The analysis of C2-VD’s organisational learning in Section 7.5.1 reveals that it
has committed energy to develop agency contingent workers by providing a career path, job enrichment, on-the-job learning opportunities and a people manager to assist them. Ultimately, some performers are willing to stay with C2-VD and be converted as C2-VD permanent employees. However, the knowledge brought it by these external workers may not be fully capitalised. It is ‘project director’ dependent (see Section 7.6.1). Moreover, knowledge in-flow is not limited to come from contingent workers. It may come from outsourcing parties, subcontractors, overseas organisations within the corporation or even competitors. In this case study interviews, participants have not mentioned much about learning from these external parties, and none of the six participants have mentioned that they participate in industrial bodies’ activities except Participant C2.D who says that he “attends seminars” occasionally at his own cost. At the senior executive level, C2-VD has representatives sitting on the committee boards of some representative IT industrial bodies in Hong Kong (see Appendix C2). Participation in these industrial bodies is an individual act. There is no formal facilitation to absorb external knowledge except some management approved sponsorship to attend certain seminars or job-related training courses.

In C2-VD’s environment, there is not only knowledge in-flow, there is also knowledge out-flow. As Participant C2.B estimates, 60% (90) of the contingent workers are unstable and stay with C2-VD for less than three years. With these mobile contingent workers and other external parties leaving C2-VD at the end of the projects, they move on in their career and may work for other companies or competitors of C2-VD. Intangible and tacit knowledge is inevitably drained from C2-VD and transferred to other workplaces.

“For intangible knowledge such as experience, it is difficult to control this even we have legal person to review the contracts” Participant C2.A.

Nevertheless, C2-VD also benefits from its knowledge in-flow and out-flow processes with contingent workers or from other external parties that move around projects of different organisations. Some IT professionals after leaving C2-VD and moving on to other jobs may re-join the organisation and bring along new knowledge and experience. This is like an eco system. IT professionals move around projects and organisations to build up their ‘career capital’ (Arthur et al., 2001); organisations (refer to Participant C2.A’s quote at the beginning of this section) move on new projects and take on new IT workers to build their ‘company capital’ (Arthur et al., 2001). New knowledge is accumulated by C2-VD, the internal staff and external workers; some new knowledge is carried to new workplaces by those who leave the C2-VD at the end of a project. The project-based learning model of Arthur et al. (2001)(see Figure 7.6 below or Figure 3.7) seems to represent the situation of C2-VD. Details of the model have been presented in Section 3.4.7.2 of this thesis.
Arthur et al. (2001) see that both project participants and project-sponsoring companies are potential beneficiaries of project-based performance and learning outputs. In the host industry, learning gained by project participants and companies collaborate in new projects of the industry. C2-VD blends ‘private knowledge’ with ‘public knowledge’ to deliver client projects. The ‘career capital’ input is represented by the three-tier resource model of C2-VD. All project participants from the three tiers have the ‘knowing-why’ (experience), ‘knowing-how’ (learning), and ‘knowing-whom’ (social network) (see details at Section 3.4.7.2) to bring to a project. They learn on the project through the organisational learning model of C2-VD (see Table 7.7). At the end of a project, Tier One (permanent) and Tier Two (stable EWF) resources stay and move on to new projects of C2-VD. Their new ‘career knowledge’ becomes the new ‘company capital’ of C2-VD. The Tier Three resources choose to leave C2-VD and carry the new knowledge to a project beyond C2-VD’s organisational boundary. This is how organisations like C2-VD contribute to build the capability of the Hong Kong IT sector. Knowledge and experience are exchanged and collaborated through resource mobility.

From the above discussions, for the health of the overall IT community, organisations should contribute to build the capabilities of the mobile workforce in Hong Kong. They carry along new knowledge from one organisation to another. However, they can also bring ineffective practices if they have poor experiences in some organisations. Referring to Section 7.4.5.1 – ‘Gloomy low-cost high-value model’ above, one of the reasons that Hong Kong’s IT sector is not optimistic in the long run is that the work of IT professionals is not valued. At a low-cost model, investments in IT professionals’ development are limited to an as-needed basis and concentrated on permanent employees only in large organisations like C2-VD. Moreover, the pool of the mobile workforce may continue to increase in size if the IT sector keeps pushing down IT project costs. Unfortunately, the mobile workforce is not likely to acquire much ‘private knowledge’ from organisations such as C2-VD even they work on large projects with the latest technology. The core competencies (such as financial management skills) are captured in-house. Therefore, it may imply the IT sector’s overall
capability may not be enhanced or may even be deteriorated by the contingent employment trend in Hong Kong. The role of resource manager, as described in this study, is critical in identifying key people capital and skills. This presents a considerable risk if IT professionals are undervalued as commodities because clearly many have critical skills and so C2-VD may be creating a strategic risk for itself by not fully recognising the need to improve its access to ‘quality’ contingent skilled workers and management of processes to ensure supply and therefore create a qualitative competitive advantage rather than focus on having a cost advantage (Porter & Marshall, 2004).

Section 7.6 suggests enhancements that C2-VD may be put in place to better capitalise upon the social networks that exist in the organisation. The future of the Hong Kong IT sector may be brighter if more large organisations such as C2-VD are willing to invest in knowledge sharing and developing IT professionals in general and not being limited to developing core in-house staff.

6.4. Case Study Two Conclusions and Summary

This C2-VD case study is representative of many large Hong Kong IT and communications services organisations. It employs almost 1,000 employees (excluding contingent workers), with about 50 of them IT professionals who work for its IT services business unit, and they are all actively involved in client IT projects. On average, C2-VD hires 75% of its IT workforce through human resources agencies on a contract basis. It also outsources some project work to domestic and offshore vendors or in-sources IT professional workers from China or overseas in the form of agency contingent workers. Therefore, the IT projects of C2-VD’s IT services business unit significantly rely on contingent IT workers and out-sourcing organisations. Its contingent employment practices have posed positive and negative impacts to the organisation and to the contingent IT workers (see Section 7.4). Both C2-VD and individual contingent workers have enjoyed a number of positive impacts gained from the contingent employment strategy. This case study also identifies negative impacts to both parties. C2-VD has mitigated them by taking some necessary actions such as imposing the organisation learning practices discussed in Section 7.5. Individual contingent workers understand the negative impacts caused by contingent employment. Nevertheless, some prefer to stay as contingently employed (such as Participant C2.D) and accept the facts, while others choose to take a permanent job as opportunities arise (such as Participant C2.F) to get away from the negative impacts. In addition to the positive and negative impacts, participants of the case study have mentioned two industrial impacts that are beyond the organisational boundary. All the case study participants see one of the causes that enforce the IT contingent employment trend has been the ‘low-cost high-value’ demand in the IT market. They feel pessimistic about the long-term future of the Hong Kong IT sector. The contingent employment trend also changes the next generation IT professionals’ path. More young IT professionals may unavoidably begin their IT career as contingent workers. However, the case study participants see the next generation IT professionals still have good prospects as long as they practise continuous learning, learning on the job, networking with more people, gaining marketable knowledge, having the right
attitudes and performing well. There is still a lot of demand for IT professionals in Hong Kong. The six expert professionals that were participants of this case study share a view on the impact of contingent employment in C2-VD summarised in Table 7.6 above.

By utilising the heavy reliance on external resources strategies as part of the IT project management tactics, C2-VD has achieved relative success in the IT market. On measuring success, C2-VD highlights four of the six contemporary project management success measures as proposed by Sauer & Reich (2009) - action process, reflection practice, project as a knowledge process and project as an emotional process. C2-VD has less emphasis on social process and value creation perspectives. This aligns with its organisation learning practices. Table 7.7 in Section 7.5 summarises C2-VD’s organisation learning by a three-level four-process model. C2-VD has strong cognitive, operational and reflective learning processes. In particular, they have put in place organisational structures such as the PMO, the business operation function (including finance management, project delivery assurance, project quality management, resource management and knowledge management) and the people manager role to drive the three learning processes. C2-VD’s mature project management methodologies form the basis to support its organisational learning. The three-tier resource model (see Section 7.5.1.1) on projects is essential to knowledge management at a project level. The Tier Two resources – stable EWF play a key role to transfer and diffuse knowledge between Tier One (permanent workers) and Tier Three (newly hired external workers). However, C2-VD has a relative weak social learning processes (see Section 7.5.2). It is an area that C2-VD may improve by utilising its existing social capital – the project director trees (see Section 7.6.1), the resource networks (see Section 7.6.2) and the organisational networks (see Section 7.6.3). It is also about the need of C2-VD to expand its organisational learning beyond the organisational boundary as it heavily relies on external capabilities to deliver its client projects. The project directors and resource manager may better utilise their networks to facilitate cross learning among projects, and contingent workers who have been or are still working in C2-VD. Management of C2-VD and the group under study (the IT services business unit) may encourage their permanent employees to better network with the outside world and corporate experts all over the world; while facilitating cross business unit communications within C2-VD. Where possible, contingent workers should be involved to bring up their competences and hence advance the overall IT capability of the Hong Kong IT sector.
Chapter 8 - Case Study Three Analysis

8.1. Introduction

This chapter presents the case study analysis of the third case study organisation, specially selected as a large Hong Kong organisation that does not utilise a large number of contingent IT workers in its IT group. This case study contrasts with the previous two case study organisations that utilise a significant portion of contingent workers in their IT groups.

Case study three, referred to as C3-FI, is a medium-sized financial institution compared to some long-established Hong Kong financial institutions. However, it is considered as a typical large Hong Kong IT users organisation according to the Hong Kong’s VTC definition (2010 Figure 8). It employs a relative low percentage of contingent IT workers. When this case study’s interviews were conducted in late 2009, it employed about 1,700 employees, of which over 100 were IT professionals under the IT group. Among the pool of IT professionals, less than 20% were contingent IT workers employed through large IT vendors or human resources agencies. This case study was sponsored by the CIO of C3-FI. The IT group comprised eight teams; each team had a senior / systems manager. The CIO was the first participant of this case study, and he introduced all his subordinates to the researcher, who picked three veteran systems managers and the head of Programme Management Office (PgMO) as participants. One of the systems managers further introduced a project team leader of his team as the sixth participant of this case study. In addition, a list of triangulation documents (see Appendix C3) has been reviewed. The findings presented below are according to the analysis outcome from the input of six participants from C3-FI and the documents listed in Appendix C3. The six participants are referred to Participant C3.A, Participant C3.B, Participant C3.C, Participant C3.D, Participant C3.E and Participant C3.F in this thesis.

8.1.1. The case study report

This case study report structure is similar to those of case study one (Chapter 6) and case study two (Chapter 7) except that the seventh section – ‘learning beyond organisational boundary’ -- is omitted. With only a small portion of contingent IT staff, C3-FI has lower demand on learning beyond its organisational boundary. The first six sections are the same as those of case study one and case study two reports, and the last section – section seven -- is the conclusion and summary section. Figure 8.1 below lists the table of contents of this report and its structure for easy reference.
8.1.2. The case study organisation

This section introduces the background of the case study organisation and the major changes that have impacts on its project management practices. The data source of this section comes from the reference list shown in Appendix C3, and the interview data supplied by the six participants of this case study. Due to the confidentiality agreement with the case study organisation, its identity remains anonymous in this research, the exact data source cannot be disclosed.

C3-FI has been established in Hong Kong for almost one century. It was used to be a Chinese-owned local financial institution until the early 90s; it was merged into an international financial institution. It was renamed as the international financial institution’s Asia branch office. In 2006, C3-FI was acquired by a large China-based financial institution and became its fully-owned subsidiary. It was formally renamed as the China-based financial institution’s Asia branch office since late 2006. By that time, C3-FI was only a small financial institution in Hong Kong; it only had 700 employees with about 40 of them from the IT group. The China-based parent company after acquiring C3-FI aggressively grew the Hong Kong business to get into the international finance market. By the time the research interviews were conducted, it was fewer than three years from the acquisition date and its
number of branches had already close to tripled from the acquisition time. Participants’ input from the interviews confirms that the plan was to grow to four times the initial number of branches in another two years. On top of the organic growth, C3-FI also went on the path of merger and acquisition. An acquisition of a small financial institution in 2009 added over 300 employees to C3-FI including 30 IT professionals. In mid-2011, when this case study report was developed, the researcher noted that C3-FI had revised its expansion plan. According to data on C3-FI’s public portal, in 2010 and 2011, the number of branches basically remained steady with some new branches established while some closed for re-organisation or consolidation. However, there has been a steady increase in staff numbers. By mid-2011, there were more than 2,000 employees. There was a slight increase in number of branches from late 2009 to mid-2011. With the rapid expansion of C3-FI, the organisation has undergone re-structuring over time. Figure 8.2 below is the high-level organisation structure of the case study organisation C3-FI and its IT group in late 2009. C3-FI is led by the board of directors, the chief executive officer (CEO) with a team of five executive management members. They are the heads of three key business segments, the chief financial officer (CFO) and the chief information officer (CIO). The CIO leads the IT group under study. This structure illustrates that IT is strategic to C3-FI. The CIO is one of the executive management members who directly reports to the board of directors and CEO. Within the IT group, there are eight IT teams led by seven systems managers and one senior systems manager - the head of the PgMO. Among the eight IT teams, the platform technology and data centre teams provide the necessary IT infrastructure services to the whole organisation. Other teams, except the PgMO, are basically aligned with the business functions. As per the CIO, Participant C3.A, “[C3-FI’s] IT team structure is aligned with the business functions”. Participant C3.B provides a comprehensive summary the role as a systems manager.

“Systems managers like me are leading the application teams to take care of various financial business applications. One systems manager may manage some ten systems. For nine systems, he is providing maintenance and support services. For the tenth system, he is playing a project manager role to enhance some features of this system” Participant C3.B.

The PgMO was a newly established team to assist the CIO to oversee the overall IT budget spending, IT operation and project execution when this case study was commenced in late 2009. Things changed dramatically when the business grew at an enormous speed; the situation described by Participant C3.B no longer holds. The IT group of C3-FI is under tremendous pressure to keep up the pace of organisational change. There is a much heavier workload and demand for more serious project management practices. The project manager role played by part-time systems managers may gradually be replaced by full-time dedicated project managers as projects grow in scale and complexity. The following sections of this case study report provide details of the challenges faced in the IT project management arena and the solutions imposed by C3-FI.
8.1.3. The case study participants

In this case study, six participants were interviewed in total. All participants are actively involved in IT project management activities in their day-to-day work. Participant C3.A is the CIO of the IT group. Participants C3.B, C3.E and C3.F are systems managers in charge of three application teams. Participant C3.B is in charge of a team providing applications to support new financial products of C3-FI; Participant C3.E is in leading a team to supporting the core financial institution application that serves the traditional business of C3-FI; Participant C3.F is guiding a team utilising the latest technology to develop the internet financial solutions of C3-FI. Participant C3.C is the head of PgMO guiding the change in programme and project management practices. Participant C3.D is a project team leader serving as the project manager in one of the application focus IT teams.

The demographics of the six participants of case study three are summarised in Table 8.1 below. Their duration of services in the current role ranged from 11 months to 12 years, with the average of 7.5 years. They had worked in C3-FI from 11 months to 19 years, with the average of 11 years. All the participants have no contingent employment work history except Participant C3.C who had a short one.
Table 8.1: Demographic summary of case study three participants

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>Six</td>
</tr>
<tr>
<td>Current roles in C3-FI</td>
<td>One CIO,</td>
</tr>
<tr>
<td></td>
<td>One senior systems manager (Head of PgMO),</td>
</tr>
<tr>
<td></td>
<td>Three systems managers, and</td>
</tr>
<tr>
<td></td>
<td>One project team leader.</td>
</tr>
<tr>
<td>Years of services in current position</td>
<td>11 months to 12 years (average: 7.5 years)</td>
</tr>
<tr>
<td>Years of services in C3-FI</td>
<td>11 months to 19 years (average: 11 years)</td>
</tr>
<tr>
<td>Average number of years worked on contingent employment terms</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Years of IT industry experience</td>
<td>20 years to 32 years (average: 24.7 years)</td>
</tr>
<tr>
<td>Highest education level</td>
<td>Two post graduates,</td>
</tr>
<tr>
<td></td>
<td>Two under graduates, and</td>
</tr>
<tr>
<td></td>
<td>Two diplomas</td>
</tr>
<tr>
<td>Formal project management qualification</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

All six participants had over 20 years of IT working experience. The average was 24.7 years. The participants had spent most of their career in the IT field of the finance industry. One of them actually began from the business operation side prior moving on the IT track. Two of the participants have worked for IT vendors before taking an in-house IT role in financial institutions such as C3-FI. Four of the six participants are home-grown leaders. They gradually climbed up the career ladder within the IT group of C3-FI to their current positions as systems managers or project team leader. Regarding the educational background of the participants, all of them have a diploma or above educational level. None of them has acquired formal project management qualification. However, they had some form of project management training by taking external training courses.

8.2. Employment Policies and Practices

8.2.1. Organisational human resources policies and practices

The finance industry is a dynamic and highly competitive market. Like all financial institutions, in the past few years, C3-FI has experienced the turmoil in the finance market such as the 2008/09 global finance crisis and the recent European debt crisis in 2010/11. In the same period, C3-FI has experienced its historic organisational expansion. “The organisation has taken a lot of risk to continue opening new branches while it was not sure where the customers were in that period”, says Participant C3.D. However, it is also good time to expand the business.

“Our organisation is currently in a crazy expansion and investment mode [...] Being a China-based organisation, it looks for long-term investment in its own place – Hong Kong. [...] The
During the same period, C3-FI’s human resources (HR) department has been busy hiring new employees, especially front-line staff. C3-FI’s human resources policy has always been hiring experienced candidates as permanent employees. This is because the finance industry is highly regulated. Regulatory compliance and audit controls are essential to financial institutions including C3-FI as they rely on customers’ trust to operate. “It is true that financial institutions have high standards on ethics requirements because of the confidentiality of the data we handle”, says Participant C3.D. Hence, it is seen as risky to be too reliant on contingent staff in this aspect.

“In the finance industry is not very conducive to use [contingent] staff because the ethical standard is much higher than many other industries [..] This industry is very sensitive and serious about personal data, and its participants have exposure to a lot of customer information” Participant C3.A.

In order to train the new hires, numerous in-house training programmes are developed by the HR department. A training centre was also established in 2009. Participant C3.E describes that “We [now] have our own training centre and have regular training courses [..] Most of the training is for the front-line staff of branches. When they newly join, they will be trained”. Some are compulsory programmes.

“The compulsory training programmes normally are related to the overall direction of the financial institution. These areas include organisational standards, and colleagues up to appropriate levels need to attend [..] Front-line staff have more such kind of training than back-office ones. [These] colleagues almost have training every month” Participant C3.F.

As for leadership development, C3-FI prefers developing home-grown leaders. Every year, it has a management trainee programme to recruit young people with an undergraduate degree to participate in a two-year training programme. Trainees are provided with project work, rotation experience in different professional streams (including the IT stream) and participate in real-life business challenges. Existing staff are also given opportunities to exercise their strengths and promotion opportunities if they are high-quality performers. However, with the rapid growth, C3-FI recently has hired more senior staff from the market in addition to internal promotions.
8.2.2. IT group human resources policies and practices

The human resources policies of the IT group follow those of C3-FI. It uses permanent IT professionals to retain the core technical and business knowledge and utilises a low percent of contingent workers to tackle the workload fluctuation. The majority of senior level IT professionals have worked in C3-FI for more than a decade and are veterans of the organisation. They know the IT applications and the organisation extremely well.

“[IT] has a team of veterans. They know the organisation well. This financial institution is willing to pay the premium to keep a group of people who are very familiar with the environment. I am the only external person at the senior level in this IT group. Colleagues at senior systems analyst and above levels are almost the same group of people when I worked here [a decade ago]” Participant C3.C.

C3-FI has a multi-fold expansion; there is huge demand on IT resources. However, C3-FI “[..] has tight headcount control. It is very difficult to get a permanent headcount” as per C3.F. It is also a long process. As per Participant C3.B, “IT manager cannot suddenly ask for approval [..] more people [..] The approval process may already take six months to go through; not to say the request may be rejected”. Without the approval of additional IT headcount to fulfill the heavy workload, contingent employment is still not a preferred human resource strategy. The way out is to “[..]either purchase more professional services or buy person-days from vendors”, says Participant C3.C. C3-FI rarely goes to those human resources agencies to look for temporary hires although it has happened in the past. All in all, retaining core knowledge by the internal permanent IT staff is the key human resources policy of the IT group and keeps the reliance on external resources to the minimal. Participant C3.F believes that “the core business knowledge and technical domain knowledge must be kept in-house”.

8.2.3. IT project resource strategy

“Financial institutions like our organisation rarely start a 100% development project. We always buy some ready-made products from vendors” Participant C3.B.

“[My application] team delivers system enhancement projects to different business units. These are not large scale projects because the package is configurable [..] My team only adds some new features when certain limitations are hit” Participant C3.D.

When a new project is initiated, in the majority of cases, it is related to a new vendor solution implementation or an enhancement of some existing IT applications. IT projects involving custom built IT applications are uncommon in C3-FI. Thus, the project resources on demand commonly need to have both the application knowledge and understanding of the business requirements. This is the
reason that the IT group prefers to maximise the internal IT resources prior looking for external help. If the external resources required are related to specific IT applications, experts are required, not generic skilled workers.

“Most projects’ initial resources […] come from the product vendors […] our project resource strategy to start a new project is to get the experts from the vendor areas […] If we do not take resources from the product vendors, we may go to some partners where the expertise lies” Participant C3.B.

For any project with experts brought in, internal resources are injected to learn from the experts and gradually assume the skills and replace the external experts in future project work. “At the end of certain stage, our existing […] staff will start to pick up the knowledge and begin the skill transfer [from the experts]”, says Participant C3.A. Nevertheless, the IT group of C3-FI also has some development type projects that do not adhere to a vendor solution. In such cases, the resources brought in are performing low level work.

“I believe no matter [from where] contingent workforce are hired, they only supply programming resources to help on some low level development work […] At the end, our internal IT teams still need to manage the project” Participant C3.F.

If the project is a super large one and the current IT group’s capacity and capability cannot cope with it, C3-FI will bring in external experts and in-sourcing ‘arms and legs’ (people) for the project’s duration. The best example is the historically large project – the core financial institution application upgrade project; it was in progress when this case study’s interviews were conducted in late 2009. C3-FI hired a professional project manager with the specific product’s implementation experience as a permanent staff and in-sourced a product expert as a contingent worker to lead the project team that made up of a mix of internal and external IT workers. It is a project not led by an internal IT expert. The project management practices and application knowledge are imported to C3-FI. The project management and resource strategy of this project are quite different from the past. Details are described in Section 8.3.2 below.

8.2.4. New IT resource strategy aligned with organisational changes

C3-FI has grown aggressively since 2007 until 2010; and then progressed steadily in 2010 and 2011. During the same period, the IT group has to support the organisation on the growth initiatives not just in terms of setting up the infrastructure for the new branches, but also the expansion in financial products and services offered by C3-FI. Business functions demand that the IT group support business-as-usual (BAU) requests while developing or upgrading IT applications to satisfy the new business needs. Participant C3.B stated that, “With the growth of the organisation, the IT group
suddenly has a few large projects [...] Moreover [...] the IT budget increases significantly”. There are more IT projects including large and expensive ones. Participant C3.C also echoes this view, “in the past, there was no IT project of the scale of tens of million US dollars. Now, there are more IT projects of such scale”. In order to manage large IT projects, it is more than just having people, but better IT project management capabilities to deliver successful projects to obtain the value from the investments. Four resource strategies have been mentioned by the case study participants on how the IT group copes with the challenges faced. They are ‘in-sourcing’, ‘outsourcing’, ‘co-sourcing’ and ‘adding new headcount’.

The first strategy is ‘in-sourcing’. C3-FI has utilised this strategy in the past but only in a small way. Under tight headcount control and a heavy workload situation, the IT group of C3-FI has in-sourced more contingent workers than the past. For example, the core financial institution application upgrade project hired almost ten contingent workers, about half of the total number of in-sourced contingent workers in late 2009. Nevertheless, as mentioned in Section 8.2.1 and Section 8.2.2 above, contingent employment (in-sourcing) especially hiring temporary resources from human resources agencies, is not a preferred employment mode of C3-FI. Further details of C3-FI’s view on contingent employment can be found in Section 8.4 below. Basically, such resources are acquired for projects and dismissed at project completion. “[Contingent] employment is project based [...] Unless there is need to convert the contingent workers to permanent staff, otherwise, they will be dismissed after project ends”, says Participant C3.E. Some performers, however, may become permanent staff (see fourth strategy – ‘adding new headcount’).

The second strategy is ‘outsourcing’. The IT group of C3-FI has practiced IT operation outsourcing for some time. Operational outsourcing is considered as a way to increase the capacity and the capability of the IT group. Outsourcing vendors are experts of their domain areas and are able to provide more cost effective professional services than an in-house IT group such as that of C3-FI.

“We have employed [operation] outsourcing strategy, and there are three purposes. One is definitely for cost saving, the second is for best practice, and the third is for contingency purpose” Participant C3.A.

“The trend of finance industry’s IT is hands on work will be outsourced, including IT operations such as call centre. There are lots of call centres in Southern China now” Participant C3.D.

On the application development side, C3-FI had tried the ‘outsourcing’ model, but it was later dropped because of the poor vendor performance. Application outsourcing is more difficult than operational outsourcing as it demands application knowledge and business user relationships. Moreover, this may not reduce costs. According to Participant C3.F, “If the outsourcing vendor is a
local one, it is likely to be more expensive than hiring our own staff. A vendor also needs to cover its risk cost. Therefore, the cost may not be low”. Hence, instead of local outsourcing, C3-FI is actively looking for off-shore ‘outsourcing’. It learns more about off-shore outsourcing from the recently merged financial institution that has used the application ‘outsourcing’ model for some time. Some IT applications have been outsourced to an Indian company and it seems to be quite successful.

“We look for non-Hong-Kong vendors to deliver our projects. In fact, this approach is already in action. [...] We are now using that Indian vendor to do some projects for us.” Participant C3.E.

“ [...] our IT group is also considering application outsourcing. We are looking at some sites in China, India and other Asia Pacific and Japan countries. We now have some [...] application development done in India” Participant C3.A.

This strategy has expanded after this case study’s interviews conducted in late 2009. Participant C3.A supplemented by commenting in early 2012, that some application testing work was outsourced to a vendor in China while some work relying on old technology know-how resources was delivered by the parent company’s IT workforce.

The third resource strategy is ‘co-sourcing’. It is the most preferred strategy as it provides both flexibility and knowledgeable resources to C3-FI. C3-FI is the only case study organisation in this thesis using a co-sourcing model. It is not a new model and has been studied by various scholars (Baldwin, Irani & Love, 2001; Hirschheim, Heinzl & Dibbern, 2006; Kaiser & Hawk, 2004) and practitioners (Bates, 1997; French, 2003; Langer, 2004; Salopek, 1998) in the last decades. It is described as a model in between in-sourcing and outsourcing (Kaiser & Hawk, 2004; Salopek, 1998). The key characteristic is both work (Baldwin et al., 2001; Kaiser & Hawk, 2004), risk and reward (Hirschheim et al., 2006) are shared between the organisation and the co-sourcing partner. It is described as a strategic alliance relationship (Baldwin et al., 2001; Hirschheim et al., 2006; Kaiser & Hawk, 2004; Salopek, 1998). It is a way to free up in-house staff (Bates, 1997; French, 2003; Hirschheim et al., 2006; Langer, 2004) to tackle more strategic tasks and provide flexibility to access external expertise (French, 2003; Hirschheim et al., 2006; Langer, 2004), but without giving up the internal control (Langer, 2004).

Participant C3.C has provided a good description of what ‘co-sourcing’ is in C3-FI. The IT group of C3-FI has identified a few large IT vendors and services providers as co-sourcing partners. Every year, C3-FI commits to procure a number of person-days from each co-sourcing partner. C3-FI may consume more resources in one month and less in another. The payment per month is on actual consumption. As the number of person-days is large enough, the co-sourcing partner has to invest in building a core team with the knowledge of C3-FI’s IT systems and applications. The work
assignment to the co-sourcing partner may be in the form of a project, a joint venture, or just arms and legs. The mode depends of the price quoted by the co-sourcing partner on each job and the risk factors of the work. If the price is acceptable, and if the job does not involve some high risk IT functions, the project may be totally outsourced to these partners. Ultimately, C3-FI will keep the masters of the IT systems in-house. They retain the core knowledge and user relationship. Other work is performed by co-sourcing partners. Co-sourcing was planned as a new resource model in late 2009, but was already in full action by mid-2010. Participant C3.A stated in mid-2010 that “Four large IT vendors had been selected as co-sourcing partners; a number of person-days have been committed per year; mostly with a local interface and with off-site and off-shore delivery in India and China”.

The fourth strategy is ‘adding new headcount’. With the expansion at the organisational level, IT is also expanding. Though there is stringent headcount control, however, there is still some increase in IT headcount. It is one of the reasons that the IT group does not use contingent employment as it still has permanent headcount to be filled. As per Participant C3.A, “There are still openings for permanent staff to be filled. There is no need to hire [contingent workers]”. The headcount increase comes from both approval of new headcount and merging with the IT groups of acquired organisations. When the case study interviews were conducted, the IT group was waiting for a number of new headcount approvals. The plan was to convert the existing contingent workers with good performance to be permanent staff. By mid-2010, Participant C3.A stated that about nine contingent workers had successfully been converted to be permanent staff.

It may be summarised that C3-FI’s IT project resource strategy is aligned with the organisational level resource strategy. It basically has the internal permanent team to retain core knowledge. Where possible, the internal team leads the majority of its IT projects. IT headcount will remain at a certain level with additional resources coming from multiple sources including in-sourcing, outsourcing, co-sourcing and additional headcount. The most preferred mode is co-sourcing with an off-shore element. A few large vendors are selected as co-sourcing partners who provide local interfaces and off-shore IT professionals to serve C3-FI. IT projects may be totally outsourced, but the preferred outsourcing parties are still the co-sourcing partners. In-sourcing contingent workforce is not a favourable employment mode.

8.3. Importance of IT Project Management Capabilities

8.3.1. Project management in the past

Before the aggressive growth of C3-FI, the IT group had fewer IT teams. Most teams only had a small number of IT people that made up a 40-person IT group. C3-FI maintained steady progress and so did the IT group. It was structured with the IT teams aligned with the business functions. The relationship between IT professionals and business users was intimate.
“In the old days, users simply asked IT for help” Participant C3.A.

“[..] the user-IT relationship is pretty good [..] Users may simply pat on IT’s shoulder and ask us to get the work done [..] IT may also pat on user’s shoulders to ask for a delay” Participant C3.D.

“Users and IT [..] try our best to prioritise the work. If ad hoc projects jump into the queue, we discuss what the impacts may be; [..] certain projects will be re-scheduled or deferred. Basically they understand the situation [..] We manage to agree on a solution” Participant C3.F.

As the organisation had been stable, the major functions of the IT group were to maintain IT systems that supported business operations and enhanced the applications. A systems manager led one or a few IT teams to provide both types of services to the business users. In such context, the IT project size was relative small and normally below 100 person-days. Participant C3.D expresses that “my team only adds some new features when certain limitations are hit. A project taking 50 person-days or 60 person-days is already a relative large project”; Participant C3.E agree that “projects of size over 100 person-days were rare. The project management for these projects was relatively simple”. Therefore, there was no clear distinction between IT people working on daily operation work or projects. They took turns to play the production support and project roles. Team members under one systems manager had to be able to support multiple systems so as to mutually back up one another. Participant C3.D provides a good description of this practice.

“My team has never been a large team [..] It was impossible that the same colleague always worked on the same modules. We treated them as a pool of resources while some of them have key focuses on certain areas [..] Every month we rotated two colleagues to be in charge of [..] production support [..] Other non-production support resources were allocated onto projects. When a new project came, those colleagues who had time would be drawn to work on the project” Participant C3.D.

With the relative small project size, the project management requirement was simple and flexible. Management did not demand sophisticated project documents. Prior to when C3-FI was acquired by the China-based parent company, it was part of an international financial institution. The corporate standard on project quality management was six-sigma. However, the IT group did not follow through six-sigma on its projects due to the small project size.

“In practice, no one project could follow six-sigma, which is too complicated and becomes the owner of projects. Every methodology must be applied flexibly. Some projects were not too complex and could not apply the whole methodology” Participant C3.A.
“Our project management requirements used to be quite simple. We did not expect our project managers to do Gantt Charts or something like that [...] We did not have a lot of sophisticated tracking [...] Our organisational culture does not require many documents” Participant C3.B.

The project management culture used to be ‘try the best’ to ‘get the things done’. Tasks might not be executed systematically or followed formally. Participant C3.F sees that “traditionally, our organisation is not very serious about project management processes. We always [...] work very hard and rush to finish our projects”. Participant C3.C provides a good explanation below.

“A lot of things need to be flexible [...] everything is urgent [...] with time pressure, there is no time to fulfill the expectation of doing testing [...] The priority just goes to getting the things done first [...] Sometimes IT colleagues are just forced to do the work. Instead of spending the time to escalate or complain, they just get the work done [...] Thus the current attitude of IT colleagues is ‘Just do it, don’t argue’. This may save some time” Participant C3.C.

Moreover, with the practice of relying on internal resources without too much external help, the IT group used to maximise the capacity to fulfill user requests. With the dynamics of the business environment and the industrial compliance requirements, almost half of the planned projects were over-ridden by ad-hoc requests.

“We used to maximise the resources we had in-house and did as much as we could. We had that many person-days available this month; I could deliver that much work this month. We asked users to prioritise what they wanted to fit in the capacity that we could provide. With the priority, we delivered the work accordingly [...] Business and compliance needs always have the highest priority to jump the queue. There is no room to argue” Participant C3.E.

“There is never enough resource to do all the work. We try our best to plan ahead especially at the beginning of a year [...] Actually, each year for those planned projects, only 50% was commenced. The rest was deferred because of those very ad hoc projects” Participant C3.F.

Projects were usually small and project management was simple. A project manager doing project management work might not have had formal project management training. Most were brought up from the technical path because of their excellent understanding of the applications and the business.

“If one knows an application well, it is quite likely that one will play the project manager role [...] They may not have formal project management training or qualifications” Participant C3.B.
“Here in this IT group, we have people called project manager as they are doing the project management work. They may not be delivering project management deliverables or have gone through proper project management training. In their course of work, they may or may not have experienced what project management is” Participant C3.C.

Nevertheless, the flexibility and informality in project management does not mean C3-FI had not implemented controls on the IT projects. The finance industry is a highly regulated industry and is subjected to internal, external and legislative audit requirements. Participants C3.A, C3.B, C3.E and C3.F have mentioned there are many audits that the IT group have to undergo. C3-FI has a team – compliance and quality assurance (CQA) -- responsible for audit compliance.

“This organisation has an internal control unit. This [CQA] is the auditor of the whole organisation, not just for IT group. It has set up some project management processes. There is a document that describes all the details as the base that every project needs to follow [...] It audits the IT group frequently and there is dedicated people following up IT cases” Participant C3.F.

8.3.2. A historic large IT project

Shortly after C3-FI became part of a China-based financial institution, the project management practices had not changed much until the commencement of the core financial institution application upgrade project around 2008. It is about converting a 15-year old application with numerous changes on top of the original version of a vendor solution to the latest release of the product. “The current core financial institution application upgrade project is a very special project. It is larger and more complex than any project in the IT group”, says Participant C3.D. It is also a high risk project. “[This] upgrade project is a 2.5-year project. It is like a heart surgery of a person; we change the heart of a person while the person is functioning”, says Participant C3.A. Understanding that the IT group of C3-FI used to be good at small project management and an upgrade project of such as this one may be only one in 15 years, C3-FI decided to import the IT project management skills and application knowledge. Both the project manager and the application expert are new hires. Both of them are ex-employees of the core financial application solution vendor. The project manager is a Hong Kong Chinese and has worked in the US for the solution vendor to deliver similar upgrade projects. The application expert is an American and had been dismissed by the solution vendor because of the poor economy. The project manager was hired as a permanent staff, while the application expert is on contingent employment terms. Participant C3.D is the systems manager in charge of this project. He feels it has been fortunate to find these two knowledgeable resources to join C3-FI. They not only bring in their expertise but also their knowledge network. In addition, the project manager also understands the Hong Kong culture. These are seen as essential elements to deliver a successful IT project in C3-FI’s environment.
“These two colleagues have a network with their ex-colleagues [...] with such networks, we can access some essential knowledge. It is very valuable to the project. We are quite lucky that we have such a knowledgeable resource network. [Moreover,] this project manager is actually a Hong Kong Chinese who worked in Hong Kong for a long time and by chance worked in the US for some time. Therefore, he is very familiar with the solution vendor’s US colleagues and understands the local Hong Kong culture” Participant C3.D

Without managing sophisticated IT projects in the past, C3-FI only had simple project management tools. This US application expert suggested the CIO procure a project management tool to help lead such large projects – project and portfolio management (PPM) -- that he had used before. The CIO (Participant C3.A) expected it be implemented seriously as a project to realise the value of the tool. He says, “Implementing PPM is about delivering better projects. It is not about hiring a manager to use PPM or developing beautiful charts and using the tools sophisticatedly [...] The PPM implementation project needs to have clear deliverables. Successfully implementing this tool is not the end of the game”. The establishment of the PgMO function (see Section 8.1.2 above) was partially caused by this large project. The head of PgMO (Participant C3.C) was hired in early 2009. He was then assigned as the project director of this project. This is also an import-skill strategy. The existing team also plays a role in the project. However, the IT group never has excess resources to handle work on top of the day-to-day operation work and small enhancement projects. The solution has been hiring contingent IT workers. The core project team roughly has a ratio of 60:40 in-house IT workers to the newly hired contingent IT workers.

“For other project resources, we intentionally hire external people to handle the upgrade [because] we selected to use [...] a relatively mechanical method. Now, we have these two consultants, including the project manager; they can lead the colleagues to complete the upgrade project. It is a relatively comfortable combination” Participant C3.D

In the early stage of the upgrade project, the contingent workers performed some mechanical work that did not demand business knowledge. In the later stage of the project, more in-house IT resources were pulled from the operational work to perform testing tasks that required business knowledge. Some of these contingent workers back filled the roles to take up part of the operation work. Participant C3.D tells how it works out, “[...] after the system integration test commenced, our permanent colleagues only designed the solution [for production issues] and the [contingent] colleagues developed the solution”. The success of this project was reported in C3-FI’s 2009 annual report (refer to the list of documents referenced in Appendix C3) published in 2010. This is a very important milestone in C3-FI’s IT group. It drives the project management changes and adapts new resource strategies.
8.3.3. Demand for better project management capability

The upgrade of the core financial institution application is just the turning point of running large IT projects in C3-FI. It is expected that it will continue to have new projects of a similar scale or complexity. There is demand for better project management capability within C3-FI.

“In the past two years, IT had a lot of catch up work [but] was re-alignment or consolidation not new things. The actual growth of the organisation only started this year [2009]; IT started the new development recently” Participant C3.C.

“Upcoming, it is likely there will be more relatively large projects as compared to the old days” Participant C3.D.

“With the rapid expansion of the financial institution, a lot of existing applications are not good enough to support the business […] In the coming years, there will be more large scale IT projects. A lot of things need to be replaced or upgraded. It will be very challenging” Participant C3.E.

With the rapid expansion of the organisation in terms of number of branches and business offerings, the IT group can no longer run projects in the old ways. All the participants agree that the IT group needs to be more structured and deliver IT projects with enhanced discipline. Project management should gradually become more formal. This is the view of the CIO who says, “There is need to be more formalisation in a lot of things”, and all participants support this view.

“The PgMO makes the people develop certain level of documentations […] We now have more project management disciplines, and the processes are more formalised” Participant C3.B.

“As the financial institution keeps expanding, things need to be more structural and formalised” Participant C3.C

“IT is facing a change from a dynamic team with close relationship with user departments to a team that need to be structural and systematic to serve a growing organisation” Participant C3.D.

“Project management is getting important in our IT group. There is need to manage the details and try to get the best outcome from these large projects […] There is need to have a more disciplined way to do things” Participant C3.E.

“Our CIO wants to impose this kind of [project management] standards as he sees there is such need in our IT shop” Participant C3.F.
The organisational expansion makes the IT group’s previous ‘resource maximisation’ strategy obsolete; so it has been forced to adapt to a new resource strategy to fulfill the increasing demands placed upon it (see Section 8.2.4 above). However, with external parties introduced into C3-FI, the IT project managers now face new challenges that did not exit in the past. Historically, they were good at managing small projects using internal resources. They now lead larger project teams with part or all of the work outsourced, some resources in-sourced (or co-sourced) or newly hired colleagues. Participants C3.B, C3.D, C3.E and C3.F observe that not many existing project team leaders or even systems managers have experience with third parties of managing contingent workers, leading outsource vendors or negotiating contracts.

“Not every manager knows how to manage contingent workforce” Participant C3.B.

“[..] gradually our IT moves to manage more outsource vendors and a project’s success and failure is pretty much dependent on how good or how bad [we] manage the outsource vendors” Participant C3.D.

“Regarding managing outsource vendors, I just start this journey. I have no idea yet. It needs some time to get the feeling” Participant C3.E.

“Today, most contract negotiation work is done by me. However, with the new resource strategy, I will get the project team leaders involved. I cannot afford to handle too many contracts; I need to delegate” Participant C3.F.

In this case study’s research interview and through public speeches, the CIO of the IT group (Participant C3.A) had expressed his view on what a successful IT group should deliver. He always puts up three directives in the form of slogans. He sees the IT group has to practise them so as deliver the best to serve the business. They are ‘do more with less’, ‘do the right things’ and ‘do the things right’. These three directives have to do a lot with the organisational change and the rapid expansion of the IT group. The IT group cannot add headcount endlessly or acquire unlimited IT budgets to satisfy the business demand. It is essential to always adapt the principle – ‘do more with less’-- to make decisions. Performing IT projects with greater discipline, following project management process and having a central body of governance are ways to save costs, reduce risk, cut down costly tasks and improve productivity.

“The other area [requires discipline] is on [cutting down] ad hoc work requests [...] Actually, all the ad hoc work may have increased the cost a lot” Participant C3.D.
“[‘Do more with less’] may be achieved by improving productivity and governance. That is if planning can be done better, management quality can be improved, risk management can be implemented better and thus money can be saved” Participant C3.C.

The second and the third ones follow in a pair. Budgets and resources are always limited. The IT group always aligns the business strategies, provides justifications to invest in the ‘right’ IT projects and creates the maximum value to the business. When a project is approved, it has to be executed in the ‘right’ way to deliver the expected outcomes within the budget and given timeline.

“ ‘Do the right things’ is about there are 100 things to be done, which ones should be picked; for those to be done, which ones should go first and which to follow [...] After we decide there is a project [...] we need to ‘Do the things right’. From a broad view, it is IT governance, and project management is the number one element in IT governance” Participant C3.A.

Section 8.5 below describes the organisational learning model of C3-FI. It illustrates how C3-FI enhances its project management capabilities to support these three directives. With the right portfolio and project management skills, the IT group can always ‘do the right things’ and ‘do the things right’, IT projects are properly selected and managed without waste; the directive to ‘do more with less’ is thus achieved.

8.4. The Impacts of Contingent Employment

8.4.1. Contingent employment is not a preferred mode

From organisation to the IT group and down to the IT project level, employing contingent workers is not a preferred resource strategy (see Section 8.2). This has to do with the unfavourable impacts brought along with contingent employment. By analysing and summarising the viewpoints of the case study participants, there are six reasons that make contingent employment or in-sourcing not a preferred employment arrangement. They are ‘project cost overhead’, ‘knowledge drainage’, ‘high ethics demand’, ‘leaking private knowledge’, ‘management of contingent workers’ and ‘attitude and quality concerns’ (see Table 8.2).

All the six participants have mentioned the drawback of having ‘project cost overhead’ if the projects relied on contingent workers. This is because C3-FI rarely hired IT workers one by one from human resources agencies but from large vendors. Often, they look for experts rather than some generic skilled IT workers. They may even come from overseas. Travel and accommodation costs may thus be incurred. Nevertheless, these contingent workers take up space and use in-house facilities. All these are overhead costs to the projects utilising such resources. Moreover, if the contingent worker leaves in the middle of a project, there is a replacement cost. All these are prices that C3-FI needs to pay.
“I do not see using contingent contractors save money. […] There is no free lunch. There may be no need to pay the benefits, however, […] if a candidate of the same qualification comes from a vendor, [the price is higher than a candidate from the street.] It has factored in other costs” Participant C3.C.

“If the vendor has [in-source] people works on-site, we need to consider if there is enough space and what other costs such as hotel, flights and others may be incurred” Participant C3.D.

“I see even we use contingent workers they still consume our office space and consumables. There are basic expenditures that we cannot save” Participant C3.E.

“These new ways of running projects [including in-souring contingent workers] have additional overheads. It may increase the development cost. It also makes it difficult to manage certain types of resources” Participant C3.F.

“For the duration of the contingent employment, there may not be cost saving. In contrary, there may be a premium to pay. If they go, there will be replacement cost” Participant C3.A.

From another perspective, C3-FI stresses the point that its IT people need to have the domain knowledge to interact with business users. Hiring contingent workers without C3-FI’s organisational and IT system knowledge incur learning overhead costs. Lost productivity is also a form of cost overhead to IT projects.

“Financial institute demands for IT professionals with industry domain knowledge. It is difficult to develop” Participant C3.A.

“Every new IT staff needs at least three months to learn the environment before being productive […] People without finance experience are not productive to us” Participant C3.B.

The second most mentioned negative impact is ‘knowledge drainage’. Four participants (Participants C3.A, C3.B, C3.C and C3.E) have mentioned this point. They see that having continuity is essential to the IT group to serve the business users of C3-FI.

“Continuity is very important to financial institutions. We have lots of complex business operations. If someone gets the job done and goes away, there is no continuity. Systems cannot survive with people come and go” Participant C3.A.
With contingent employment, there is no mutual job security. Contingent workers may not stay in C3-FI for the duration of their contract to complete the intended tasks. Their departures normally create interruption to the IT work. Participant C3.C sees, “if a contingent staff working on support and maintenance work leaves, we may be in trouble. If one leaves in the middle of a project, we are in trouble as well”. As knowledge will be drained away from the organisation as contingent workers resign from their work, C3-FI cannot be too reliant on contingent workers. Backup plans are always in place to mitigate this negative impact. This may incur overhead costs as stated in the previous negative impact.

“No matter under what circumstances, managers cannot depend too much on contingent workers. Contingent staff can go away; they just have a contract with the organisation” Participant C3.B.

“The main concern is I cannot rely too much on [contingent workers]. When I assign some tasks to a [contingent] colleague, I need to have an additional colleague to back up the work [...] In case some contingent colleagues resign, I have my internal colleagues who understand how to continue the work” Participant C3.E.

The third negative impact of contingent employment in C3-FI is ‘management of contingent workers’. The IT group of C3-FI used to be stable and practised ‘resource maximisation’ strategy (see Section 8.3.1). However, as Participant C3.F stated, “My colleagues and I are not experienced in managing third parties”. The project managers or systems managers are in the learning processes when the IT group utilises more third parties under the new resource strategies (see Section 8.2.4). However, Participant C3.E sees that managing contingent workers should be no different from managing any new-comers.

“No matter which source the project member comes from, if he or she is new to the organisation, we need to set some guidelines and provide deadlines to specific tasks to guide him or her [...] This is the same for permanent or contingent workers” Participant C3.E.

Nevertheless, managing contingent workers may be more difficult than leading in-house IT workers because of their work attitude. The fourth negative impact is ‘Attitude and quality concerns’. The behaviours of contingent workers are found to be different from the in-house permanent staff. With the nature of contingent employment, contingent workers are deemed to be less stable. Participants C3.B, C3.C and C3.F have observations on the working attitudes of contingent workers.

“Contingent worker does not abide toward the manager, and it is difficult to motivate him or her” Participant C3.B.
“Contingent workers have no loyalty [...] If there is a job that gives the contingent worker a permanent offer, he or she will go [...] It is lucky if we can find contingent workers who do not just look for a high paying job” Participant C3.C.

“I feel that the performance especially the ownership attitude of contingent workers is weaker than permanent ones. Contingent workers seldom walk extra miles, and some just leave the office on time at six pm. This difference is visible” Participant C3.F.

The fifth negative impact is ‘high ethics demand’. Participants C3.A, C3.D and C3.F have touched on this viewpoint. At the beginning of Section 8.2.1 above, this case study report has already mentioned the essence of employees’ ethics to the business success in the finance industry. The CIO (Participant C3.A) points out that “the demand for high ethical standards is the first reason that we do not prefer to hire [contingent] IT staff”. Employees of C3-FI must be well aware of the sensitivity and confidentiality of information they can access. It is compulsory for all staff to attend ethics-related training programmes organised by the HR department. “If the [training] programme is applicable to all staff, it is normally related to conducts or ethics. As a financial institution, we have a lot of this type of training”, says Participant C3.F.

The sixth negative impact – ‘leaking private knowledge’ -- is related to the fifth negative impact – ‘high ethics demand’. C3-FI cannot afford to have sensitive data or trade secrets leaked out to the market or competitors. However, Participants C3.B and C3.D see it cannot totally prevent the leakage of C3-FI specific private knowledge as contingent workers leave the organisation. Participant C3.B states “potentially, there may be knowledge lost”, and Participant C3.D agrees that “[as] financial institutions have keen competition, not hiring contingent workers can avoid leakage of trade secrets”. The IT group has implemented controls according to different regulatory compliance requirements to ensure data are securely stored and accessed. Therefore, Participant C3.D feels with proper planning and management the job assignments of contingent workers, the negative impact can be minimised.

“[…] it is feasible to have more contingent workers in financial institutions. It is a matter of how and where to utilise them and depends on [their] roles and what information is disclosed to this type of colleagues ” Participant C3.D.

In summary (refer to Table 8.2 below), C3-FI does not prefer to take contingent employment as its resource strategy because there are overhead costs to projects including the effort to manage the contingent workers and the potential loss of productivity due to the poor work attitude and quality of work of contingent workers. Continuity is essential to financial institutions, however, contingent employment cannot avoid knowledge drainage and potentially, it may lead to leakage of private knowledge to the market or competitors. More importantly, business is built on the trust of customers
on the financial institution; there is a much higher demand on the ethics of its employees. Contingent employment is thus undesirable to C3-FI.

Table 8.2: Negative impacts of contingent employment from the organisation’s perspective

<table>
<thead>
<tr>
<th>Negative Impacts</th>
<th>Organisation perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project cost overhead (6)</td>
<td></td>
</tr>
<tr>
<td>2. Knowledge drainage (4)</td>
<td></td>
</tr>
<tr>
<td>3. Management of contingent workers (4)</td>
<td></td>
</tr>
<tr>
<td>4. Attitude and quality concerns (3)</td>
<td></td>
</tr>
<tr>
<td>5. High ethics demand (3)</td>
<td></td>
</tr>
<tr>
<td>6. Leaking private knowledge (2)</td>
<td></td>
</tr>
</tbody>
</table>

8.4.2. **Incentives to expand contingent employment**

Although employing contingent workers is not a preferred resource strategy (see Section 8.2), C3-FI has more contingent IT workers now than in the past. In fact five of the six participants (Participants C3.B, C3.C, C3.D, C3.E and C2.F) state that the percentage of contingent worker over the total IT workforce should increase. They have different views on what the ideal percentage is, but it is a figure much higher than the current one (< 20%). The proposed ideal percentage ranges from 30% to 70%. However, there must always be an in-house pool that can maintain all the IT systems. By analysing and summarising the viewpoints of the case study participants, there are six reasons that make contingent employment or in-sourcing a feasible human resources option in C3-FI. They are listed later in Table 8.3 and are ‘achieving business results’, ‘flexibility’, ‘acquiring skills’, ‘screening’, ‘headcount’ and ‘flow of knowledge’.

The most mentioned incentive to hire more contingent IT workers in C3-FI is ‘achieving business results’. With the rapid growth of the business, the IT group can no longer deliver IT projects according to priority and resource availability. All the six participants agree that the business always takes priority. The slogan ‘Do the right things’ is about choosing the right IT projects and ultimately to contributing value to the business. Although hiring IT professionals in a contingent mode is not a preferred one, factually, there are more contingent workers than the past. Business cannot wait for in-house IT resources to deliver all the work. Even though continuing to hire permanent IT staff is not the agreed-upon best way, temporarily hiring contingent workers to deliver IT projects is still exercised.

>“Business success is about utilising the limited resources given and achieving the expected result. This is what I mean - ‘Do the right things’” Participant C3.A.
“At the end we are working for the business of the organisation. We need to keep enhancing the value to business. I think contingent IT workers have a lot of roles to play to enhance the value to business” Participant C3.B.

“[..] with the organisational growth, it is more demanding on IT [..] These made the demand for IT resources increases significantly [..] It now takes time [..] to change the mind-set to accept the fact we need to manage more external parties or contingent workers” Participant C3.C.

“We should not hire permanent staff because of that particular project [..] I see the view that we should grow the percentage of contingent workers in our shop; it makes sense” Participant C3.D.

“[..] we cannot afford to work in this [resource maximisation] mode anymore. There are different user groups that have their needs and deadlines [..] Therefore we need to rely on outsourcing vendors or hiring contingent workers” Participant C3.E.

“Management may not agree that the IT group needs to grow from 100 people to 200 people [..] However, they will agree that when there is need, the financial institution can outsource the work or hire contingent workers” Participant C3.F.

Nevertheless, contingent employment in the IT group is still at a low percentage (less than 20%) over the total IT workforce. In the long run, C3-FI prefers to go for co-sourcing and outsourcing models (see Section 8.2.4) to fulfill the business needs.

The second benefit of contingent employment mentioned by five participants is ‘flexibility’. C3-FI’s IT applications include a lot of products from solution vendors. Thus, C3-FI considers hiring contingent workers to have functional flexibility when the required skills or experience are not available in-house. “The [..] circumstance that we consider to employ contingent workforce is when we do not have the expertise in-house”, says Participant C3.B. In the long run, such skills may not be in demand, as Participant C3.A states, “they are domain experts. They have specialised knowledge and skills. We will not retain such people in the long run”. Non-experts may also be hired to provide numeric flexibility. Core knowledge is always retained in-house in C3-FI. There are times, however, when IT projects are under tight time pressure, when buying contingent IT resources as ‘arms and legs’ gains time but it is unsustainable to continue employing more permanent employees. However, contingent workers can be dismissed once the demand is fulfilled, and the required work is completed.

“[Contingent] employment is project based. The core knowledge is retained by our leaders who are our permanent staff; these [contingent workers] are mainly the legs and arms of projects [..] they will be dismissed after the project ends” Participant C3.E.
Another viewpoint is that contingent employment provides cost allocation flexibility. The cost of employing contingent workers can be reported in financial books as capital expenditure, solution capitalisation or business development cost. Permanent employment’s cost cannot be reported flexibly, and the fixed cost incurred is a long-term burden to the organisation.

“[..] from financial reporting perspective, using contingent workers gives more flexibility on reporting the financial results. For example, if one hires a contingent worker, one can classify this spending as capital expenditure. [If] hiring through a vendor that delivers the professional services, this professional service can become a solution capitalisation. If it is for business development purposes to hire a [contingent worker], one can factor the cost in the business development cost and get the expected result. Therefore, the financial management can have different handlings and make the IT financial management flexible” Participant C3.C.

“Employing contingent worker will not have such [fixed cost] issue, and there is no long term burden” Participant C3.C.

‘Acquiring skills’ is the third most mentioned advantage of contingent employment. Five participants (Participants C3.A, C3.B, C3.C, C3.D and C3.E) have expressed this viewpoint. C3-FI looks for skills that are not available in-house. As presented in Section 8.3.2 above, the historic large project, which imported the product expert, is one example of acquiring skills. By hiring such an expert, C3-FI not only acquires the expertise but has access to the network of product experts through the expert’s social network. This is attractive to C3-FI. Moreover, by exercising contingent employment in the right area, C3-FI can keep a pool of stable and knowledgeable workers who are loyal to the organisation and deliver similar performance as permanent workers. An example is employing a pool of IT people with older technology knowledge and experience. They may be rare resources in the market when the economy is good. C3-FI has been able to recruit some ex-employees of financial institutions; they not only have the older IT technological capability but also the business knowledge.

“In bad times, some IT people having [old technological] skills were laid off, or they quit but could not find a permanent job again. Most of our contingent colleagues became contingently employed under such situations” Participant C3.E.

“In fact, our IT group’s [contingent] colleagues are pretty stable. Due to the nature of our platform, which is an old technology, even our [contingent] colleagues are older ones. [..] They are very stable” Participant C3.E.
The fourth positive impact is ‘screening’. Participants C3.A, C3.D, C3.E and C3.F have mentioned contingent workers with good performance are to be converted to be permanent workers upon headcount approved by management. They see these colleagues have already acquired the organisational and business knowledge as they are contracting to the organisation. Converting them to be permanent workers saves time and cost to train new staff, while it reduces the risk of hiring inappropriate candidates.

“Because of this core financial institution application upgrade project, my team has hired more [contingent] staff. [After] one and a half years to almost two years; they are assets to the financial institution. They have the [our] application knowledge. Some even establish relationships with some users” Participant C3.D.

“If the headcount are approved, we will consider our existing [contingent] colleagues first. We may not recruit from external. These colleagues already have the knowledge when we hired them. We do not need to provide training to them, and they can be hands on and productive once on board” Participant C3.E.

The fifth reason for going for contingent employment is the tight control on ‘headcount’. Participants C3.B, C3.C, C3.E, and C3.F see contingent employment is the only choice to fulfill business demand without headcount. Factually, C3-FI has a three-fold expansion in terms of number of new branches, and the IT group’s headcount has grown at a much slower pace.

“With pretty much the same capacity level that supported [x] branches to support [3x] branches within two years. We continue to hire, and we are nearly double our capacity from two years before” Participant C3.B.

“When the organisation has needs, but there is no headcount, there is no choice but to use the [contingent workers] to fulfill the needs” Participant C3.E.

Lastly, three participants (Participants C3.A, C3.C and C3.D) mentioned the ‘flow of knowledge’ also motivates C3-FI to employ more contingent workers. New knowledge and ideas have been provided from contingent workers. As part of the organisational resource strategy, the core knowledge is captured in-house by permanent staff. There are always plans that the knowledge and expertise brought in by contingent workers are retained by the in-house IT professionals. Participant C3.D stated that transfer of knowledge is expected; “Part of the agreement is that this [contingent product] expert will deliver training on the different areas about the core financial institution application”. Nevertheless, the in-house IT group has been stable for a long time, and with the injection of new
people, some old practices and culture may be challenged, and existing staff may worry their positions are replaced by contingent workers.

“Our IT group has been very stable for a long time. They accumulate a culture or some practices over time [..] Some in-house colleagues can survive by just working for certain number of hours at the office [..] The future of this IT group depends if the veterans can be bushed up and be re-vitalised to catch up the pace of work” Participant C3.C.

“Some permanent staff may worry if their positions will be affected by the large group of [contingent] staff; maybe they will be replaced” Participant C3.D.

However, it is inevitable that contingent workers have brought in new ideas and ways of doing things on top of their expertise. This may change the culture of the IT group. “A side benefit of utilising this kind of contingent professionals is that they bring in new ways of doing things or creativity to our organisation [such as PPM]” Participant C3.A. The PPM application introduces a structured portfolio management approach that demands discipline of all the parties involved in projects. This is very different from the dynamic and flexible way of managing IT projects in the past (see Section 8.3.1). In terms of knowledge outflow, C3-FI also hires some IT people contingently not looking for their contribution to the IT group, but for the purpose of bringing up these people’s capability as part of the obligation to the parent company or to the society. By the time this case study’s research interviews were conducted, the IT group of C3-FI had about ten China IT professionals coming from the parent company providing a bridging role between the China and Hong Kong IT groups. It was a short-term training programme. The second scenario is hiring new graduates as management trainees or local interns as contingent IT workers and this is seen as an organisational social responsibility action. C3-FI provides opportunities to these young IT professionals to learn IT and finance concepts. However, they normally leave the organisation in two to three years’ time and may not become long-term human resources for C3-FI.

“For some special, political or organisational reasons, we hire some contingent staff for a period of time. Today, we have 10 to 11 staff from our parent company in China [..] Another example that falls in [this] situation is hiring new graduates to be management trainees. We hire new graduates as part of our social responsibility” Participant C3.A.

“We do not expect these young new-comers to stay long. IT is an interesting industry. Anybody taking a seat for two to three years will get itchy [to look for new jobs]” Participant C3.C.

In summary (refer to Table 8.3 below), C3-FI has increasingly used more contingent workers, mainly because of the increasing demand driven by the business. Contingent employment is a temporary
measure to work around the headcount control, acquire the skills and achieving the business results. The IT group has enjoyed the flexibility and captured the knowledge in-flow provided by contingent employment. Moreover, when the new headcount is approved, the right candidates are already screened and ready to take the permanent positions.

Table 8.3: Positive impacts of contingent employment from the organisation’s perspective

<table>
<thead>
<tr>
<th>Positive Impacts</th>
<th>Organisation perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Achieving business results (6),</td>
<td>2. Flexibility (5),</td>
</tr>
<tr>
<td>2. Flexibility (5),</td>
<td>3. Acquiring skills (5),</td>
</tr>
<tr>
<td>3. Acquiring skills (5),</td>
<td>4. Screening (4),</td>
</tr>
<tr>
<td>4. Screening (4),</td>
<td>5. Headcount (4) and</td>
</tr>
<tr>
<td>5. Headcount (4) and</td>
<td>6. Flow of knowledge (3)</td>
</tr>
</tbody>
</table>

### 8.4.3. Impacts beyond the organisational boundary

#### 8.4.3.1. Young IT Professionals

Throughout the whole case study interviews, all the six participants have a consistent view on the necessary characteristics of candidates who want to be C3-FI’s permanent IT employees. They must have finance industry experience, know its IT applications and the business well, and have the ability to interact with business users. C3-FI does not hire inexperienced candidates as permanent staff. Therefore, Participants C3.A, C3.B, C3.C and C3.F see that young IT professionals interested in getting into the finance industry should initially get prepared to enter into contingent employment to gain some IT and finance industry experience.

“Personally, I do not reject [the contingent employment] practice. I see fresh graduates who just get into the IT industry should better be prepared for [contingent employment]” Participant C3.A.

“End-user organisations like us always look for experts. It is not a financial institution’s social responsibility to train up [young] IT workforce. Its core business is not IT” Participant C3.B.

The reality is young Hong Kong IT professionals are facing competition from the China IT workers. Many business organisations such as C3-FI have outsourced or plan to outsource IT work to China.

“With the keen competition from China, especially for the younger generation, Hong Kong’s IT industry is being marginalised” Participant C3.D.
Responsible organisations or organisations with available budget do not need to rely too excessively on contingent workers such as C3-FI, and it continues to provide permanent offers to young IT professionals with little experience. Participant C3.B’s view has been “today’s managers in Hong Kong financial institutions want to have full control and do not want to have too many contingent workers. Maybe budget is still not yet a problem”. However, as mentioned in Section 8.4.2 above, C3-FI only treats hiring young IT graduates or management trainees as a social responsibility. It is difficult to rely on them to be the successors in the IT group as they usually do not stay long. For the survival of young IT professionals in Hong Kong, the participants have four choices. They are ‘continuous learning’, ‘learning on the job’, ‘having the right attitude’ and ‘performing well’.

Continuous learning
Both the IT and finance industries are dynamic and fast changing. Participants C3.A, C3.C, C3.D and C3.F advise practitioners in the end-user environment as IT professionals to maintain and upgrade both their IT technical and finance business knowledge. Young IT professionals do this by seeking self-study or undertaking formal training to acquire some useful qualifications. Moreover, because young IT professionals are likely to be contingently employed, they should prepare to pay for the learning investments including time and money.

“IT is a forever changing industry. If one does not move fast enough, the new generation excels the old. An individual needs to invest more on oneself and add value to one’s IT work” Participant C3.D.

“In the IT sector, it is likely more junior people will come from a contingent employment background. They need to invest on their own capability build up and learning” Participant C3.F.

“Hong Kong IT professionals need to self-develop themselves. They should study and obtain some professional certifications. If one joins this sector, one needs to prepare for it. At the end, this is reality, one should better equip oneself” Participant C3.A.

“There are lots of resources that facilitate self-learning [...] there are always available resources that IT practitioners can have for learning. Almost everything can be found on the internet [...] the younger generation has a much broader space. There are lots of room for self-learning” Participant C3.C.

Learning on the job
Getting into the end user IT group in the finance industry as a young person is difficult unless one is fortunate to get a job such as the management trainee job of C3-FI. Participant C3.B advises young IT workers to acquire the necessary experience step by step. One should acquire some good IT work
practices before going into the finance industry. Finance knowledge may be gained by working on projects for financial institutions, self-study or by formal training.

“**In such an environment, typically fresh graduates will join IT companies or software houses. Young IT professionals join these organisations and learn there [...] The IT vendors or software houses are places where people can learn and later move into the end user organisations [...] They need to grasp some technologies before going into business organisations. For business knowledge, such as financial industry knowledge, IT professionals can look for a project that is for a financial institution [...] A more proactive way is to spend some time to self-study some finance related programmes. One may do a master or an undergraduate course on finance**” Participant C3.B.

**Having the right attitude**

Participant C3.D advises young IT people to be proactive to seek opportunities, and participant C3.C asks young people to be patient; all problems are solvable if they do not give up.

“**I see the young IT professionals nowadays need to have some luck and should be more proactive to seek opportunities. When there are interview opportunities, all the work assignments from the studies, comments from professors and others should be shown off**” Participant C3.D.

“**For young people, no matter in what capacity [either permanent or contingent], [they should] never give up. For any problem, one just keeps ‘licking’ the related material until cleaning up the last bit [of data] and ‘chewing’ on a problem until finding a solution. There is nothing one does not know; one just gets to read more**” Participant C3.C.

**Performing well**

Ultimately, it is one’s performance that determines the future. Even if a young IT professional is permanently or contingently employed, one should keep on working hard and performing well. A contingent worker’s performance influences the chance to obtain a contract renewal or to be converted to be permanent employee. Conversely, one may be expelled from the market.

“**Being a [contingent worker] may give the individual more motivation to work hard so as to have the next job offer [...] [Contingent workers] clearly know their situation if they do not perform well, they will be expelled and become obsolete**” Participant C3.C.

“**As long as one can demonstrate he or she is capable and is a performer, one will have a bright future [...] It is really the ‘person’ that determines the outcome**” Participant C3.F.
8.4.3.2. Older technology IT professionals

Finance institutions such as C3-FI still use some legacy technology systems. The core financial institution application that was being upgraded is a good example. This is not uncommon in the finance industry. When such systems need to go for a major upgrade or replacement, there is a need to source IT people with older technological skills. If they have earlier product and finance industry knowledge, the learning curve in the project will be shorter. Three participants (Participants C3.C, C3.D and C3.E) raised concerns about acquiring resources with older technological knowledge. These resources are scare in the market. Therefore, “[..] we are using systems analysts (SAs) as programmers since people with such knowledge are difficult to find in the market”, says Participant C3.C. Participant C3.D also finds this is a risk; “in my team, we have always been on [an old technology] platform. In fact, it is a risk to my team. The availability of such skills in the market is rare [...] Even if we can find such resources; they are very experienced and expensive”. Such resources are not just expensive but also approaching retirement age. It is another risk that organisations utilising such technologies have to face. Unfortunately, in Hong Kong, young IT people instinctively uninterested in learning old technologies. In fact, such training is no longer offered by the solution vendors. C3-FI has tried to develop its own people to take up such technologies; at the end they leave the IT team utilising old technologies to another internal team that develops internet applications. There is internal competition for capable IT resources.

“For programming language training [of old system platforms], even [the vendor] only gives customers some self-learning material.” Participant C3.C.

“Young IT people are not willing to learn this kind of [old] technology, and the market is much smaller. They go to the PC team on internet technology related jobs” Participant C3.E.

From the organisation’s perspective, it is fortunate that in-house teams that own old technology platforms are very stable as there is also a lack of external market for them. However, Participant C3.E sees that there is still such a market when the economy is good.

“There is still some competition for talent in the financial industry. In 2007, we lost a few colleagues to larger financial institutions” Participant C3.E.

From an individual’s perspective, having older technological skills means he or she has a narrower market. However, once he or she is employed either contingently or permanently, they are likely to get better pay than others who only know common IT programming languages. However, if the market is weak or even if in-house employees with such skills are fired, they have difficulty finding a job. C3-FI has benefited from this characteristics as “it is [...] relatively difficult for colleagues with this skill to find a job outside [...] they are stable here”, says Participant C3.D. The core financial
institution application upgrade project has been able to recruit such contingent workers during poor economic times. They perform well and have been pretty stable (see Section 8.4.2 – ‘acquiring skill’). Nevertheless, IT workers with older technological knowledge are getting older and will retire soon. The source of new blood comes from China. There are training schools in China that develop batches of new generation of IT people learning the older technology. This is one of the reasons that C3-FI partners with co-sourcing vendors with an off-shore arm in China. Participant C3.A noted that such resources now also come from C3-FI’s parent company’s IT arm in China (see Section 8.2.4).

“In China, some schools train the young IT professionals on some old technologies such that they can work on old technology platforms. After some time, they will leave the field and are replaced by a new batch of trained young professionals. Schools keep on training young people, and they keep leaving after some time” Participant C3.D.

This section has investigated the impacts of contingent employment from an organisational perspective and two impacts beyond the C3-FI organisational boundary. It may be summarised that the contingent employment strategy imposes both positive and negative impacts to C3-FI. However, it is not a favourable resource strategy of C3-FI on IT projects because of the negative impacts it has even though there are some benefits. Table 8.4 below provides a summary of the impacts discussed in this section.

Table 8.4: Impacts of contingent employment in case study organisation C3-FI

<table>
<thead>
<tr>
<th>Organisation Perspective (number of participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative Impacts</strong></td>
</tr>
<tr>
<td>1. Project cost overhead (6)</td>
</tr>
<tr>
<td>2. Knowledge drainage (4)</td>
</tr>
<tr>
<td>3. Management of contingent workers (4)</td>
</tr>
<tr>
<td>4. Attitude and quality concerns (3)</td>
</tr>
<tr>
<td>5. High ethics demand (3)</td>
</tr>
<tr>
<td>6. Leaking private knowledge (2)</td>
</tr>
<tr>
<td><strong>Positive Impacts</strong></td>
</tr>
<tr>
<td>1. Achieving business results (6),</td>
</tr>
<tr>
<td>2. Flexibility (5),</td>
</tr>
<tr>
<td>3. Acquiring skills (5),</td>
</tr>
<tr>
<td>4. Screening (4),</td>
</tr>
<tr>
<td>5. Headcount (4) and</td>
</tr>
<tr>
<td>6. Flow of knowledge (3)</td>
</tr>
<tr>
<td><strong>Impacts Beyond Organisational Boundary</strong></td>
</tr>
<tr>
<td>1. Young IT professionals (5)</td>
</tr>
<tr>
<td>2. Old technology IT professionals (3)</td>
</tr>
</tbody>
</table>
The above sections have revealed the background of C3-FI; its HR strategy; investigated the past project management practices and the demand for better project management capabilities; and analysed the viewpoints of the participants on contingent employment from an organisation perspective. The following section will analyse the current learning practices adopted in C3-FI and how it measures project success.

8.5. **Organisational Learning and Project Success**

8.5.1. **Organisational learning of the case study three organisation**

The organisational learning activities of the case study three organisation - C3-FI -- have been analysed using the Järvinen & Poikela’s (2006) process of learning at work model. Table 8.5 below is the summary of the organisation learning activities of C3-FI based on this model.

Table 8.5: Organisational learning model of case study three organisation. Source: Järvinen & Poikela’s (2006) process of learning at work model

<table>
<thead>
<tr>
<th>Social Processes</th>
<th>Reflective Processes</th>
<th>Cognitive Processes</th>
<th>Operational Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context of individual's work (IT staff of C3-FI)</td>
<td>* Practice on the Job</td>
<td>* Self study</td>
<td>* Formal learning</td>
</tr>
<tr>
<td></td>
<td>* Progressive job complexity</td>
<td>* Informal coaching from senior colleagues</td>
<td>* Industrial qualification</td>
</tr>
<tr>
<td></td>
<td>* Learning from experts</td>
<td></td>
<td>* Web-based training</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Giving opportunities</td>
</tr>
<tr>
<td>Group:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context of shared work (IT Group or IT project teams of C3-FI)</td>
<td>* IT project execution</td>
<td>* Formal project assurance by PgMO</td>
<td>* PgMO driven continuous improvement</td>
</tr>
<tr>
<td></td>
<td>* Job rotation</td>
<td>* Informal multi-source survey</td>
<td>* Experimenting with new IT project strategies</td>
</tr>
<tr>
<td></td>
<td>* Informal sharing</td>
<td>* Formalising programme and project management methodology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Project knowledge sharing via PgMO</td>
<td>* PgMO as a centre of knowledge</td>
<td></td>
</tr>
<tr>
<td>Organisation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>context of organisation's work (C3-FI)</td>
<td>* Close IT-business relationship</td>
<td>* Performance review</td>
<td>* Experimenting with new policies</td>
</tr>
<tr>
<td></td>
<td>* IT systems delivering business results</td>
<td>* IT project audit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* KPI measures</td>
<td>* Home-grown talent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Employee surveys</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Policies and guidelines</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Training policy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Human resources policy – buy expert skills</td>
</tr>
</tbody>
</table>

The model is a four-process (social, reflective, cognitive and operational) three-levels (individual work, shared work and organisation’s work) learning model. Details of the model have been explained in Section 3.4.5.3 of this thesis.

260
6.1.1.1. Social processes

Social processes are about the “sharing of know-how knowledge and experience between the individual, the group and the whole organisation. Learning requires participation” (Järvinen & Poikela, 2006, p. 181). In the past, most of the IT projects were small in scale in C3-FI, and individual project management skills were acquired through on-the-job practice. Most of the project managers and team leaders are developed internally through taking on more complex roles and tasks over time. Participant C3.E has gone through the typical home-grown path in C3-FI.

“I acquire most of my project management knowledge through on-the-job (OTJ) learning. When I gradually moved up the career ladder from a programmer to a systems analyst and then to a project manager, I picked up the knowledge on the job” Participant C3.E.

Moreover, C3-FI prefers to purchase solutions from vendors rather than develop its own IT applications. “Those [IT colleagues] who are lucky enough to have worked with vendors may have observed how vendors manage projects”, says Participant C3.C; thus C3-FI IT staff learn from the vendors both the product knowledge and project management practices. However, large-scale project management practices are imported and later transferred to in-house IT project managers. An example is C3-FI hired the project manager with extensive project experience and the vendor product knowledge to lead the largest project of C3-FI (see Section 8.2.3). Therefore, on-the-job practice, experience of progressive job complexity and learning from experts are the key social learning practices of individual IT workers.

Learning occurs at the group level through interactions of IT workers and other project participants within a project team or within IT teams under the same systems manager. They learn from one another through IT project execution. Some teams practise job rotation. Project resources and production support resources are cross leveraged, and knowledge is thus diffused.

“[..] every month we rotated two colleagues to be in charge of the core financial institution application production support [..] it is a challenging job but good learning opportunity to the support colleagues [..] Other non-production support resources are allocated onto projects” Participant C3.D.

However, this is an individual team’s decision. Not every systems manager imposes the same learning practices. Cross-team sharing was also not formalised. Fortunately, the IT group of C3-FI has a stable workforce especially those above the senior SA level (as per Participant C3.C). The project managers or team leaders of different IT teams know one another. Informal knowledge sharing is common, enabling one team to learn the best practices of others.
“There is no formal sharing on day-to-day project management matters. However, if we see the other team has something pretty good such as some tools, we may adapt them into our team’s projects” Participant C3.E.

With the establishment of the PgMO, Participant C3.D expresses that it “has a function to coordinate cross team matters”. The PgMO is expected to gradually play an important role in facilitating cross-team project knowledge sharing in the IT group of C3-FI. The PgMO has expanded over the years from only one PgMO manager to have a few experienced project management staff to perform programme management work (as supplemented by Participant C3.A in early 2012). IT project execution, job rotation, informal sharing and cross team project knowledge sharing via the PgMO are the key social learning activities within the IT group.

At the organisation level, the IT group and business functions have close working relationships. An IT team is paired with the business function(s) it supports. Participant C3.D stated that users may “simply pat on IT’s shoulder and ask us to get the work done”. The IT professionals learn business knowledge from the business users. Vice versa, the business users learn about IT and project management practices through day-to-day interactions with the IT people. The pressure to deliver business results has been imposed on both the IT group and business functions due to rapid business expansion leading to much greater demand for IT services. This has driven the IT group to implement more and larger IT projects than before. Thus, the IT project managers have to acquire knowledge to manage projects utilising external resources such as outsourcing partners, co-sourcing resources or contingent workers (see Section 8.2.4 above). Learning also happens as the IT group interacts with these external parties on new IT projects while delivering business results. In summary, the close IT-business relationship and the demand for IT systems to deliver business values are the key driving forces for social learning at C3-FI.

The social processes of learning in C3-FI across the three levels (individual, group and organisation) were presented above with summarised in Table 8.5.

6.1.1.2. Reflective processes
Reflective processes are about “the factors relating to the obtaining and giving of individual feedback, the assessment discussion of groups and the drawing of conclusions as well as the continuous evaluation for promoting the development of the whole organisation”(Järvinen & Poikela, 2006, p. 182). Five participants (Participants C3.A, C3.B, C3.D, C3.E and C3.F) state that self study is the most essential and effective way of individual learning in the IT industry. Things change too fast so formal training may not be as timely as self study. Participants C3.C and C3.F feel that almost everything can be learned from the internet (see Section 8.4.3.1). There is no formal coaching or
mentoring programmes within C3-FI, but informal coaching from senior colleagues is common. Participants C3.D and C3.F stated that they have a culture where senior colleagues coach junior colleagues. In this way along cultural ‘traditions’ pass layer by layer along the career ladder. It is therefore an essential practice to promote in-house people.

“In terms of coaching, in my team, there are two layers. I coach my project team leaders who in turn coach his members. Seniors coach juniors is common in my team” Participant C3.F.

“My team also has mentorship to bring up the people [...] The content of mentorship is leader dependent” Participant C3.D.

In summary, self study and informal coaching from senior colleagues are the key means of reflective learning at the individual level.

Group level reflection happens in the form of formal project assurance. In the past, project teams under systems managers worked in silos. The establishment of the PgMO provides a department-wide view of IT projects to C3-FI’s management and as stated by Participant C3.C it “helps the CIO to do the day-to-day governance and control work”. IT project managers generate department-wide statistics through having to report project progress to the PgMO using common measures such as a user acceptance test log status. The PgMO can thus alert related parties to manage their outstanding issues using common knowledge. Project teams and the whole IT group’s mistakes are reflected upon from the PgMO’s reviews and alerts. Every project participant learns from following processes and suggestions from the PgMO.

“The PgMO expects everyone who is handling a project [of any size] keeps track of their projects by providing regular status update following the project management processes” Participant C3.B.

“Currently, the PgMO has a function that it regularly scans the outstanding [test] logs [...] All related parties will receive the [statistical] information and get informed about how many issues are outstanding in each party’s particular area [...] all related parties have to meet the [project specific] service level” Participant C3.D.

Prior to the establishment of the PgMO, group level reflection has also been practised and will continue to be performed. IT systems managers may contact multiple parties involved in an IT project for surveys to obtain their feedback. The survey channels may include formal project progress meetings, informal customer communication, complaints from business functions, and comments from the project team leaders or feedback from the bridging function – Operation Product Services and Support (OPPS). OPPS plays the business analyst role and is an independent unit bridging the IT
project team members and business users. All these are opportunities for learning and improvement. Participant C3.F sees that “The various feedback collected may trigger actions to improve the situations”. Therefore, formal project assurance and informal multi-source surveys are the key means of reflective learning at the group level.

At the organisational level, C3-FI has formal processes to reflect the performance to individual staff. Conducting periodic formal performance appraisals is an organisational policy to provide feedback to the in-house staff of C3-FI. This also presents the opportunity to listen to and absorb the employees’ voice that helps to refine some organisational policies (see Section 8.2.1). Moreover, at the organisational level, C3-FI has the CQA function (see Section 8.3.1) that performs internal audits on a variety of projects including IT projects. C3-FI has published organisation-wide ‘Project Management Processes’. Projects are classified as small, medium and complex; each type of project has different documentation requirements and processes. There is demand for compliance. IT projects have a high chance of being selected for an audit as they do not only need to follow some internal processes but also have a lot of external regulatory compliance requirements from the financial regulatory bodies such as the Hong Kong Monetary Authority (HKMA). IT project managers have to take feedback from the CQA to fix the current project issues and improve the practices in upcoming projects.

“Our CQA team performs all these [audit] checking […] Our quality management staff must have the technical domain knowledge about the industry as financial institutions have a lot of regulations and audit standards that require compliance” Participant C3.A.

“Each year certain projects will be audited and sample checked. This control unit [CQA has] dedicated people following up IT cases. Internet [application] is the one that being checked most frequently […] The reason is there is a lot of work in this area, and the HKMA has such requirements” Participant C3.F.

Information supplemented in early 2012, key performance indicator (KPI) metrics have recently been put in place to provide insight relating to business operations including the extent to which IT projects have achieved the KPI goals – these are all expressed as figures (supplemented by Participant C3.A in early 2012). With the KPI outcomes, “there is no excuse for not taking action to improve”, says Participant C3.A. In addition, an organisational employee survey on a ‘sense of belonging’ was conducted by an independent consulting firm in 2011. Participant C3.A states that there was a very good staff response rate to the survey and that the survey outcome has indicated very positive feedback.

In summary, employee performance review, IT project audits, KPI measures and employee surveys are the key means of reflective learning of C3-FI at the organisation level; the reflective processes of
6.1.1.3. Cognitive processes

Cognitive processes are about “the production, sharing, transfer and recording of knowledge and new models or concepts coming from the employee, the group and the whole organisation. Experience-based knowledge, to which has been added externally acquired knowledge, is at this stage refined into more general knowledge for the organisation's databases” (Järvinen & Poikela, 2006, p. 812). In C3-FI, formal project management training to individuals had not played a critical role in the past. In-house six-sigma training was available to IT workers earlier but had become obsolete since C3-FI became a China-based organisation. The CIO brought PMI’s PMP® training in-house in response to the demand for better IT project management capabilities to meet the business demand of C3-FI (see Section 8.3.3.). By late 2010, over 20 IT staff had attended the training, and some planned to take the PMP® credential test later.

“[..] in the old days, IT applied six-sigma as the quality process. [..] [Recently.] our CIO is going to push our internal project management training based on PMI’s PMP®” Participant C3.D.

Although C3-FI’s IT group has invested more effort to develop the project management capabilities of IT employees, most participants, except Participant C3.C – the head of PgMO -- has not expressed support for formal project management or IT qualification as an essential characteristic of an in-house IT project manager.

“It is better if a project manager can get a formal project management qualification to benchmark the knowledge level. Then everybody knows this PM has understood certain standards such as PMP® of PMI or PRINCE2” Participant C3.C.

By working in the finance industry, all the six participants believe that having financial industry knowledge is essential for advancing one’s career in a financial institution IT group such as C3-FI. Practically, some C3-FI IT staff have seriously considered the need to take courses and even seek qualifications such as the Chartered Financial Analyst (CFA) or a master degree.

“Lots of people are doing their CFA nowadays. We also have some holders of CFA, Master of Finance and Master of Business Administration qualifications in our IT group” Participant C3.B.

From 2009, the in-house training centre managed by the HR department introduced web-based learning. All staff, including the in-house IT workers, have to attend certain mandatory web-based training courses, which are related to certain organisation-wide knowledge.
Therefore, formal learning, acquiring formal qualification and web-based learning are the key means of cognitive learning of IT employees in C3-FI.

At the group level, all participants agree that the IT group needs to be more structured and deliver IT projects with better discipline. Project management should gradually become more formal (see Section 8.3.3). This has already put into action. The establishment the PgMO in early 2009 is viewed as an essential investment in advancing the IT project management capability in C3-FI.

“Creating the Programme Management Office is the biggest thing that we have done in relation to project management capability enhancement in our IT group” Participant C3.B.

The head of PgMO is also the deputy to the CIO and supports him to achieve the slogans - ‘do the right things’ and ‘do the things right’. He gradually puts in new project management processes, which are supported by tools such as the PPM. Using these tools, the PgMO periodically produces statistical data to business owners and the CIO to provide project transparency. During the time the research interviews were conducted, a complete project management methodology was not yet in place. However, the PgMO has put in the necessary structure to govern IT projects from selecting the right project to executing the projects in the right way with the necessary guidelines in place. The IT group is determined to gradually put in place formal IT project management processes on top of those imposed by the CQA. Furthermore, the PgMO has been positioned to be at the centre of IT project and programme management of C3-FI. Every participant in this case study has a list of expectations on the role of the PgMO; however, some may take time to achieve. The head of PgMO provides a summary of the duties of his team.

“Our IT group is an internal IT environment. There are two important duties. The first one is to help the organisation’s development [...] there is a need to have product services including new products, new services and some enhancement of operation efficiency [...] The PgMO needs to provide ways to manage changes, the whole portfolio and each project’s delivery. Thus, one key function of the PgMO is portfolio and project management. [...] The other duty [of the IT group] is to support the operation environment. [It] needs to ensure that the systems operate effectively [...] The PgMO mainly helps the CIO to do the day-to-day governance and control work” Participant C3.C.

As well as investing in developing programme and project management processes, the IT group also imports project management capabilities through different IT project human resources strategies (see Section 8.2.4). Cognitive knowledge is also imported into C3-FI through these channels.
In summary, the IT group has been investing in the PgMO to make it the centre of programme and project management knowledge and promote the use of formal project processes. The people (PgMO), processes (project management processes) and technology (PPM) are the keys to drive cognitive learning in the IT group. At the same time, it also imports cognitive knowledge through different IT project human resources strategies.

In addition to IT group level learning practices, there are organisational level policies and guidelines, training policy, HR policy, or merger and acquisition activities that also contribute to the cognitive learning. The CQA function plays a role in the cognitive learning. The processes imposed by it are guidelines that all projects, including IT projects, must comply with in the organisation. All project participants learn from these guidelines.

In terms of formal training, C3-FI’s HR department delivers regular training programmes for eligible employees to enroll and attend. Non-permanent staff, such as in-source contingent workers, co-sourcing resources or outsourcing workforce are not eligible to join these training programmes. Beyond these training programmes, managers can approve training sponsorship to employees to take external courses. IT systems managers used to encourage their colleagues to join some HR training and external training courses as they prepare for promotion or work to be project managers.

“In this organisation, when a colleague is up to the SA level, his or her supervisor may give him or her information of some relevant courses including project management ones. Such skills may facilitate the colleague to do a better job and prepare for next career advancement to be a project manager” Participant C3.E.

In addition to formal training investment, it is C3-FI’s HR policy to retain core skills in-house. There are attractive packages in place to keep a stable permanent workforce.

“[We retain permanent staff:] we provide attractive staff benefits [that] cannot be found in other industries. Our organisation also offers better medical benefits, corporate discounts and others” Participant C3.A.

Although C3-FI has exercised stringent headcount control, it is willing to offer headcount to hire experts. Hiring the project manager for the core financial institution application upgrade project provides one example. Other than hiring, C3-FI also follows an expeditious path to expand its capability by merger and acquisition. The acquisition of a small financial institution in 2009 that added over 300 employees to C3-FI is one example. Through this acquisition the IT group gained 30 people thus acquiring experience on how to manage off-shore co-sourcing partners.
“For example, an Indian company supporting a recently merged organisation’s core financial institution application is a form of co-sourcing [...] This seems to work in the merged in organisation. It may work in our financial institution as well” Participant C3.D.

Through executing organisation-wide policies and guidelines including audit guidelines, training policy and human resources policy, C3-FI structures its cognitive learning. The cognitive processes of learning in C3-FI across the three levels (individual, group and organisation) are summarised in Table 8.5 above.

6.1.1.4. Operational processes
Operational processes are the “continual experimentation and testing of new practices on the part of both individual employees and work groups and departments. From the perspective of the organisation, this means that the new practices become firmly established”(Järvinen & Poikela, 2006, p. 813). In C3-FI, the human resources strategy has always been promoting its own in-house leaders to retain knowledge. Therefore, junior staff are informally mentored by senior colleagues (see individual reflective learning) and are given relevant formal training (see organisational cognitive learning) to prepare them to take up senior positions. At work, their assignments may stretch their capability, but these opportunities to perform the next level’s work prepare them for promotion.

“We had such case that we pulled a junior colleague out to do some more senior work. It is just like a performance appraisal. It he or she succeeds, he or she will be promoted” Participant C3.F.

Moreover, the recent growth of the organisation has led to the introduction of many new faces into the organisation. The IT group has hired new leaders such as the head of PgMO, the project manager of core financial institution application upgrade project and a number of contingent workers. These people bring in new ways of doing things. The existing in-house IT staff also need to learn and adapt the new culture.

“With the expansion, there is increasing number of staff, including management level staff. When a new manager joins a new organisation, he or she has strong views to put in some new ways of doing things and may be very different from the existing practices [...] I believe some of these ideas are good for the growth of the organisation. In this token, some changes will go in this IT group. There will be cultural changes” Participant C3.D.

Therefore, individuals learn operationally by being given opportunities to perform the next level’s work and experimenting with new practices brought into the organisation.
At the group level, continuous advancement on IT project execution is driven by the PgMO. The PgMO gradually collects project statistics and metrics to provide alerts to management. The data also provide insight on areas of improvement. With the implementation of PPM, data will be available in a more timely and accurate way. With data transparency, project management practices will be more structured and rationalised. The recent implementation of KPIs further enhances the structural practice.

“In the old days, users simply asked IT for help. Now [I] have the reports to prove that I really have no resources to help. Transparency is important” Participant C3.A.

“The current attitude of IT colleagues is ‘Just do it, don’t argue’. This may save some time. Without figures, it is hard to make things structural. However, with some tools and benchmarking reports to support the cases, things may be less drastic and getting more reasonable” Participant C3.C.

Moreover, with the implementation of new IT project resource strategies (see Section 8.2.4) it is necessary to learn how to manage external parties. All these require systems managers and project managers to experiment with new project management practices such as third party management (see Section 8.3.3).

“If the direction of the whole organisation is to go for such [outsourcing and co-sourcing] direction, I need to gradually adapt this model. There are a lot of challenges ahead” Participant C3.F.

The PgMO is focused on continuous improvement, and IT projects are experimenting with new strategies; both are the major operational learning activities at the group level in C3-FI.

At the organisational level, the CQA function seeks compliance in project management processes. Feedback comments from CQA not only lead to the project level improvement but also organisational level enhancement. New industrial regulatory requirements are external driving forces to push C3-FI to define new policies. As C3-FI experiments with new policies, it seeks continuous operational learning.

Another operational learning perspective stems from C3-FI’s human resource policy is home-grown in-house talent (see Section 8.2.1). It is an organisational policy and not IT specific. For example every year C3-FI hires management trainees who rotate their work in different business functions including the IT group. This policy allows the individual employee opportunities to demonstrate his or her talents and provides opportunities to climb the career ladder within C3-FI. They are given opportunities to learn and grow in-house.
Experimenting with new policies and developing home-grown talent are the two key organisational level operational learning activities. The operational processes of learning in C3-FI across the three levels (individual, group and organisation) are summarised in Table 8.5 above.

8.5.2. Achieving IT project management capability enhancement

Analysing the organisational learning practices of C3-FI (see Table 8.5), shows how C3-FI manages to drive continuous IT project management capabilities advancement to deliver better IT projects and to support the business dynamics of the organisation while facing challenges in this fast changing financial market. From Section 8.5.1 above, it is clear that C3-FI and the IT group have put in a lot of effort and investment to improve the IT project management capabilities of C3-FI since it became a China-based organisation.

6.1.1.1. Operational processes

Among the four learning processes (social, reflective, cognitive and operational), C3-FI has outstanding operational learning processes. It experiments with new policies and seeks continuous improvement. It has the CQA and PgMO organisational structures to implement new policies and processes at the organisational and IT project levels. Moreover, the tradition of developing in-house resources and home-grown leaders provides opportunities to individual employees, project leaders, project managers or functional managers to advance by stressing their capabilities. Employees are given opportunities to demonstrate their talent whenever feasible. Participants C3.B, C3.D, C3.E and C3.F are all examples of home-grown leaders, and they have stayed in C3-FI from 10 to 19 years.

6.1.1.2. Cognitive processes

C3-FI is also strong in the cognitive learning processes. C3-FI invests a lot on formal training. It has set up its training centre and has the HR department organise regular training programmes to employees. Although the in-house programmes are mostly for front-line staff, other employees can apply for training sponsorship to acquire the necessary training. Nevertheless, the IT staff may not have fully utilised this organisational investment. The number of training hours was found to be below the HR guideline (about four to five days training per employee per year) according to Participant C3.C. The IT group invested much more on cognitive learning since the establishment of the PgMO in early 2009. Although a full set of project management processes was not in place by late 2009, the direction has been injecting more effort to drive more formal and structural project management processes in the IT group. The implementation of the PPM is the starting point. The major weaknesses have been the formal project management processes have not yet been completed, and the outcome of the new IT project resource strategies (such as in-sourcing, outsourcing, co-sourcing and additional headcount) are yet to be observed. However, at the organisational level, C3-FI continues to lead the execution of organisational policies and guidelines to ensure proper operation of
the business and IT projects. In addition, the business expansion is accompanied by mergers and acquisitions of other organisations to acquire capabilities and talent. Although it takes time to generate the expected business outcomes from the mergers and acquisitions, from a learning perspective, some valuable knowledge has been imported.

6.1.1.3. Reflective processes
Relatively speaking, C3-FI has weak reflective learning processes. According to inputs from participants, the PgMO and CQA are the two official bodies that provide feedback on projects to ensure the project execution complies with internal policies and guidelines. The regular employee performance review exercise is part of the organisational level human resources policy. Employees will receive feedback from their direct report managers. All these are formal sources of reflective learning. There are two informal reflective learning activities - informal coaching from senior colleagues and informal multi-source surveys. They are critical to support the human resources strategy to develop in-house leaders and talent. It may be better if such activities can be formalised and are not individual dependent. Furthermore, IT workers under the same IT systems manager may share lessons learned if the systems manager takes the initiative to coordinate the sharing. Cross-team sharing does not seem to be practised in C3-FI. None of the six participants have mentioned this point in the research interviews. However, as found in supplementary information collected in early 2012, C3-FI has enhanced its reflective learning practices at the organisational level. There are KPI measures and employee surveys to collect employee feedback. These above mechanisms are applied in addition to listening to employees during the regular performance evaluation exercise or collecting innovative ideas through the intranet (refer to the list of documents referenced in Appendix C3). Overall, there is a lack of formal facilitation or encouragement to have good reflective learning practices beyond the enhanced organisational practices. There is room, therefore, to enhance the reflective learning processes.

6.1.1.4. Social processes
Relatively speaking, C3-FI is the weakest of the social learning processes. C3-FI has not put in much effort to encourage or facilitate learning through social interactions. Social learning happens mainly within the same IT team or the same project. IT structure alignment with the business functions indicates an example of a best practice. Each IT team is paired with the respective business function(s) to work closely on related IT projects. Most participants describe the working relationship as good demonstrating active social learning activities at this level. Other social learning activities (such as practice on the job, progressive job complexity, learning from experts, job rotation, informal sharing or project knowledge sharing) are individual or systems manager dependent. IT teams reporting to different systems managers have no formal learning activities, although the IT workers know each other and may learn from one another in some informal social interactions. Social learning is more an individual’s act in C3-FI’s environment.
From the analysis of C3-FI’s organisational learning practices in Section 8.5.1, C3-FI’s learning used to be small team oriented and individual dependent. The IT systems managers have strong influence on the learning practices of their IT team members. The organisation has provided an open environment to allow employees to experiment with new ways of doing things and explore some senior level tasks. These practices have played a key role to bring up the in-house capabilities. Such a learning mode may continue in C3-FI. However, with the expansion in the organisation, the most essential operational learning mode is likely to be replaced by codified knowledge in the forms of policies, guidelines, procedures and standards (such as the project management processes, KPI measures and audit guidelines). C3-FI does not only need to develop and retain in-house talent but to also bring up the capabilities of the extended workforce that includes in-sourcing, outsourcing and co-sourcing workers. The PgMO will become the centralised body of project management knowledge and is critical in C3-FI’s organisational learning model. It cuts across the four learning processes (social, reflective, cognitive and operational).

It may be summarised that C3-FI’s organisational learning in IT project management capability advancement is moving from a small team oriented mode toward a centralised model. The current learning model has not addressed the likely negative impacts when more external parties including contingent workers are involved to deliver IT projects (see Section 8.4.1). The relative weak social learning processes and deficiencies found in the reflective learning processes may be partially constituted by the long-term stable IT workforce in C3-FI. People know one another and learn naturally. There is no need to have much formal facilitation to enforce learning. However, with the expansion of the organisation, new people will join the workforce, and more group level and organisational level facilitation may be required.

8.5.3. Achieving project and organisational success

C3-FI has changed significantly since it was acquired by the China-based parent company in 2006. It faced a huge post-merger integration or reconstruction challenge over the first few years. Most investments focusing on organisational growth only started from 2008 or 2009. The largest IT project (see Section 8.3.2) started in 2008, a lot of investments in formal training (such as the establishment of the training centre) and enforcement of proper IT project management (such as the establishment of PgMO and the procurement of PPM) began in 2009 (see Section 8.5.1). The business expanded rapidly, and the number of branches only stabilised in 2010 (see Section 8.1.2); thus the definition of organisational success changes over time. By mid-2011, IT’s priority also changed along with the business from supporting growth to securing stability (refer to the list of documents referenced in Appendix C3). In an interview with a media made in mid-2011, the CIO of C3-FI observed that systems implemented in the rapid growth years take time to become stable to deliver the expected values and to operate fully cohesively to perform the highest service level. Thus, the IT projects in the
next few years will focus on integrating, consolidating and enhancing the resilience of the various systems (refer to the list of documents referenced in Appendix C3). This demonstrates how the IT group ensures it ‘does the right things’ to support the business.

In the literature survey chapter, a multiple process views of IT projects from Sauer & Reich (2009) is presented (see Section 3.2.3). The model values multiple ways of constructing and interpreting what IT projects are about, what is going on within them, and what techniques and approaches may be appropriate for managing them. It is a contemporary model containing six processes to interpret project management success and failure. They are the action process, social process, value creation, reflective practice, project as a knowledge process and project as an emotional process.

For C3-FI, from the action process perspective, its projects have to be compliant with the organisational level’s ‘Project Management Process’ published by the CQA and under the monitoring and control of the PgMO. From this aspect, C3-FI performs well in the action process and supports the directive - ‘do the things right’. The IT project status has high transparency in C3-FI. The second process is the social process. From the discussion in Section 8.5.2 above, C3-FI has not been proactive in building social learning facilitations to fully capture the potential from its resources (including the in-house IT teams and external resource partners) across multiple projects. Regarding the third process - the process of value creation, Participant C3.A mentioned the PgMO has used PPM to monitor and track changes and resource utilisation in a post-interview discussion with the researcher in late 2010. In a public speech made in mid 2010 (refer to the list of documents referenced in Appendix C3), the CIO mentioned the concept - ‘Do things go right’, which is about assessing the performance of the key KPIs. Moreover, productivity and efficiency improvement have always been the focus of the IT group so as to achieve the ‘do more with less’ directive of the CIO. It is believed the IT project measures have been beyond the iron triangle of project success (time, cost and quality of project outputs) and to create the expected business values. The fourth process is reflective practice. As discussed in Section 8.5.2, C3-FI has some formal reflective practices, such as the PgMO project reviews, the CQA audit and the regular employee performance evaluation, employee surveys and KPI reviews. However, there is a lack of formal facilitation or encouragement to have good reflective learning practices on across projects or across team learning. The fifth process is project as a knowledge process. Section 8.5.2 summarises that C3-FI’s organisational learning in IT project management capability advancement has been small team oriented. Each IT team has its own practices to capture knowledge generated and is diffused within the team. Such practice is gradually moving toward a centralised model relying on in-house IT staff, a centralised body of knowledge (PgMO) and centralised standards and methodologies to create, capture and retain tacit and codified IT project management knowledge. Lastly, the sixth process is project as an emotional process. This is about if IT projects help to create trust and commitment of project participants toward the projects and the organisation. The participants of this case study have not provided data if the IT
projects have escalated IT workers commitment in the projects. However, judging from the outcome -- a stable IT workforce -- it may be agreed that the IT group environment and its projects have built a team of a loyal IT workforce. In C3-FI, the human resources policies emphasise developing and retaining talent in-house. In the IT group, opportunities are always given to existing IT workers to boost their capabilities to be promoted to the project manager role with necessary coaching from senior colleagues (see Section 8.5.1). It is uncommon to hire external IT project managers. Such an environment has built a loyal IT group, which is described as stable (Participants C3.A, C3.B, C3.C, C3.D and C3.E) with most senior IT workers promoted from within C3-FI. Even newly hired contingent workers for new projects have been fairly stable (Participants C3.D and C3.E). In fact, nine contingent workers have successfully been converted to be permanent staff of C3-FI by mid-2010 (Participant C3.A). Participant C3.B has provided a good explanation of the situation.

“Our IT group historically has always been very stable with a very low attrition rate [...] People feel comfortable with the culture [...] there are always new technologies, new business and new staff [...] The other attraction of this IT group is that IT people are very heavily involved in the business side as well. In many other financial organisations, IT and the business are completely separate [...] When the group is stable, people have no good reason to take the risk and leave” Participant C3.B.

C3-FI continues its traditional human resources policy with a heavy reliance on in-house permanent staff even though the IT group has some new resource strategies (see Section 8.2.4) to utilise external resources. This means an individual’s performance (no matter as a permanent or a contingent IT worker) may provide him or her with a chance to be selected as the next home-grown leader or become a permanent employee. Moreover, if the project is very challenging or utilises new products and technologies, expert support will be sought. In-house IT workers can observe and learn from experts (see Section 8.5.1). This project culture may have contributed to the emotional commitment of IT workers to stay with the IT group.

It may be concluded that C3-FI has adopted contemporary IT project management practices and culture. Although there are opportunities for improvement (such as the reflective or social processes), C3-FI has paved the way to ensure the IT group exercises programme and portfolio management aligned with business priority (‘Do the right things’) and follows good project management processes (‘Do the things right’) to deliver IT projects in a cost effective way (‘Do more with less’) and satisfy the defined KPIs (“Do things go right?”). Ultimately, organisational success is achieved.

8.6. Developing and Maintaining Social Capital

In the literature survey chapter of this thesis, when discussing social capital of IT projects (see Section 3.4.6), Nahapiet & Ghoshal (1998) define social capital as “the sum of the actual and potential
resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (p. 243). In C3-FI, the social capital generated via IT project execution gradually changes when the organisation expands and stabilises.

8.6.1. Historic silo project structure

The IT group of C3-FI used to be a small group with a few teams; each served certain business functions. Section 8.3.1 has detailed the former project management practices of C3-FI’s IT projects. The small team operation model was made up of a network of IT and business aligned teams. It had driven close cooperation within each IT and business aligned team. However, each team worked at its own pace and style according to the specific needs of the respective business. There was not much formality. The systems supported by each team were relatively independent. There were chances that the project of one IT team impacted that of the other IT team. The cross team alignment was normally under control as the projects were mostly small ones taking fewer than 100 person days (see Section 8.3.1). Therefore, the IT teams and IT projects could work in a silo environment.

“There are teams and every team used to operate in its own silo” Participant C3.B

“In the old days, [...] There might be cases that a few projects went in parallel at the same time. [There] are some issues brought by moving target [...] however, the scale is not as large as this time [in the core financial institution application upgrade project]” Participant C3.D.

In addition, an IT team used to ‘maximise the resources’ (as per Participant C3.E); project implementation was prioritised to fully utilise the IT team’s capacity. This limits the learning to be always within the team. Cross team learning is only informal, and learning from external experts is opportunistic. Moreover, with the IT teams each supporting different systems, each team is specialised. This also causes cross team learning difficulties. Quotes from Participants C3.F and C3.D below illustrate that cross team learning and sharing are uncommon.

“In our IT group, there is no cross team resource management [...] We have team level sharing, not cross team” Participant C3.F.

“I have three sub-teams. Each sub-team has a team leader. They have their own focus areas. Within a sub-team, the team leader will arrange some cross training, OTJ training and coach the team members to grow the knowledge” Participant C3.D.

Nevertheless, as the IT group is stable and used to be a small group of 30 to 40 people, it formed a small social network. This network interacted with the network of IT and business aligned teams.
People in the social networks work co-operatively; informal learning and sharing seemed to work effectively earlier. Participant C3.F is happy with this model.

“Luckily our business users are very considerate and reasonable [...] Basically they understand the situation. Therefore, we rarely have ad hoc work that cannot be handled and need to escalate the issue to senior management. We manage to agree on a solution” Participant C3.F.

8.6.2. New social networks

Now, cross team cooperation is more sophisticated as IT projects become complex and interface with multiple business functions. For example, the core financial institution application interfaces with almost all systems (as per Participant C3.D). Its upgrade demands the cooperation of many IT teams and related business users.

“[C3-FI] expanded from [x] branches to over [3x] branches in two years [...] The infrastructure team responsible for branch opening is already very busy. Different application teams, each also has one large project on hand [...] All these projects are running in parallel. They may not fall on the same period but they are inter-dependent. [...] In our systems integration test stage, we can only use their existing [middleware] version to conduct the test as the new one has not yet been developed. When we come to user acceptance test (UAT) [...] we need to retest all the interfaces using this new version of middleware. There is risk” Participant C3.D.

IT projects can no longer work in silos or only rely on the internal IT resources. The business cannot afford to stay with the ‘resource maximisation’ mode; IT projects are deadline driven. Large or complex IT projects demand experts and workforce beyond the in-house capability and capacity (see Section 8.3.3). C3-FI has already decided to try out new resource strategies for IT projects (see Section 8.2.4). The social networks are of a completely different form compared to those earlier in the organisation.

6.1.1.1. Social network hub

In-house IT systems managers and project managers are unfamiliar with managing large, complex projects especially when part of the project relies on some external parties or contingent workers. They are seeking support to guide them to face this new challenge (see Section 8.3.3). The CIO established the PgMO team as the solution and it became the centralised body of project management knowledge and the central hub to coordinate cross team and cross project activities; it provides overviews of all IT projects to the CIO and business management (see Section 8.5.2). The programme and project management processes are more formalised. Business users also have to follow the process to request IT resources rather than ‘pat the shoulder’ of IT workers (as per Participant C3.D).
Nevertheless, as described in Section 8.5.1 (see Table 8.5), the PgMO plays formal roles at the group level’s reflective, cognitive and operational learning. Participants in the case study expect the PgMO to facilitate cross team knowledge sharing but have not mentioned if the PgMO has already played an active role to facilitate social networking of project managers and leaders. At the time the research interviews were conducted, the PgMO was still in its initial stage. The head of PgMO may not have had the time to develop the social networks.

“We are still looking for ways to organise the PgMO as I had been too busy since I joined this organisation [...] On top of the PgMO work, I was also the project director of two strategic projects” Participant C3.C.

“The PgMO focuses more on [...] what the project status is; who is unhappy; how to manage the intra-departmental or intra-organisational politics, or how to resolve different parties’ conflicts” Participant C3.B.

Nevertheless, the PgMO has been assigned and is expected (by Participants C3.A, C3.B, C3.D and C3.E) to assume the role as the hub of all IT programme and project management matters. The new social network structure has a lot to do with the PgMO’s direction on how to link up the IT teams, external partners and business users.

6.1.1.2. Co-sourcing partner networks

Among the new IT project resources strategies (see Section 8.2.4), C3-FI prefers to work with a few large vendors as co-sourcing partners. By late 2010, four co-sourcing partners had been appointed (Participant C3.A). They all have a local team to interface with C3-FI and some off-shore resources to deliver the work. C3-FI commits to procure a significant number of person-days every year, and the co-sourcing partners have to build core teams with members who invest time to learn C3-FI’s IT systems and applications as stated by Participant C3.C (see Section 8.2.4). The co-sourcing model is seen as providing benefits brought along by the contingent employment strategy (see Section 8.4.2) while not leading to all the negative impacts from hiring contingent workers (see Section 8.4.1). From the positive impacts perspective, similar to contingent workers, the co-sourcing partners not only resolve the resource capacity, flexibility and headcount issues, but also bring in the necessary skills. There is knowledge in-flow. To enhance the social learning processes with co-sourcing partners, C3-FI may consider having the PgMO take the lead to establish certain communities of practices (CoPs) (Walker & Christenson, 2005) in arenas that the in-house IT skills are insufficient or have future demands. Both in-house and co-sourcing teams’ IT professionals can participate. From overcoming the negative impacts of contingent employment perspective, co-sourcing partners are large vendors; they aim for a long-term relationship with C3-FI. Both the vendors and their core team members should be more stable than contingent workers. The core team members are meant to be
knowledgeable; they should not have work attitude or quality of work issues. With the contractual relationship, the co-sourcing vendors should exercise high ethical standards to serve C3-FI. Nevertheless, this is not the least expensive source of resources. However, they are reliable, and costs may be saved from their productivity.

“By optimising the way of contracting, some costs may be saved [...] if we only use [a few] vendors to provide resources. When the people take on the job and report to duty, they can be productive shortly. This saves person-days. If we go to different vendors for resources, there is an overhead to pick up the learning curve. This is how we optimise the work and save money” Participant C3.C.

Although co-sourcing IT professionals are capable and can perform a lot of work of the in-house IT team, C3-FI is not giving up its traditional human resource practice to capture the core knowledge and user relationship by the in-house staff. This strategy enables C3-FI to gain the best of both worlds. First, the in-house IT group can continue to maintain the intimate relationship with the business functions. It continues to deliver business value. Second, with time, the co-sourcing partners’ core members learn the IT systems and applications of C3-FI and work harmoniously with the in-house IT professionals. They form C3-FI’s extended flexible IT workforce. This new IT group has the organisational experience, external knowledge and flexibility to satisfy the business demands. With proper facilitation, the extended IT workforce of C3-FI can generate social capital and build up new organisational knowledge for C3-FI.

6.1.1.3. Parent company’s China IT group

C3-FI’s parent company is a China-based financial institution and is among the largest listed financial institutions in China. It has a mega size IT group. As one triangulation document published in mid-2009 (refer to the list of documents referenced in Appendix C3) shows, C3-FI’s parent company had six major systems develop centres with over 6,000 IT professionals. It therefore has a giant resource pool.

When the research interviews were conducted in late 2009, most participants’ views (Participants C3.B, C3.C, C3.D and C3.E) had been formed from a Hong Kong financial organisation’s business environment perspective which was extremely different from that of a China one. There could not be a lot of leveraging.

“Our Hong Kong IT group is doing the development work. It is unlikely to share our applications with our China counterpart as Hong Kong’s applications are very specific. [...] Hong Kong’s regulatory requirements are also very different. Moreover, Hong Kong’s workflow is geared
toward a single city operation, whereas for mainland China, the workflow needs to cater to the geographic distributed environment” Participant C3.B.

However, in 2011, in a media interview with the CIO (refer to the list of documents referenced in Appendix C3), he mentioned C3-FI would tap into the huge technical resources of C3-FI in the parent company; there would be closer collaboration and tighter integration on IT matters. In early 2012, Participant C3.A commented that the China IT group supplied old technology workers to Hong Kong’s IT group. This implies the IT project managers of C3-FI need to adapt the counterpart’s practices of the parent company. It is another large external party that the IT group can integrate with to develop its new social capital.

8.6.3. Broader learning networks

C3-FI traditionally had a low ratio of contingent workers and third parties in its IT workforce (see Section 8.2.2). When the historic large project commenced (see Section 8.3.2), the number of contingent workers significantly increased. Just one project’s contingent workers constituted to 50% of the total number of contingent workers of the IT group in 2009. Nevertheless, the total number of contingent workers still only constituted less than 20% of the total IT workforce.

However, most of the participants (Participants C3.B, C3.C, C3.D, C3.E and C3.F) support C3-FI to increase the portion of non-permanent employees in the IT workforce. The suggested optimal percentage of non-permanent IT workers ranges from 30% to 70%. Among the five participants, only one supports the view to in-source more contingent workers. Others support the increased reliance on co-sourcing and outsourcing resources. All of them are open to accepting off-shore IT resources if they are from co-sourcing or outsourcing partners.

“That mix of 90% in-house and 10% outsource is too much. I would go for a 50-50 ratio. I will not go lower than 50% for in-house work. A workforce with 30-40% contingent workers is healthier” Participant C3.B.

With the support of IT systems managers and project managers, together with the C3-FI’s action to recruit co-sourcing partners, C3-FI’s non-permanent IT workforce will gradually increase. There are greater opportunities for the in-house IT workers to co-work with external parties. Moreover, the CIO of C3-FI is a respected executive and a renowned knowledgeable opinion leader in the IT and finance industries. He is active in various industrial bodies. His personal network is an essential social capital to C3-FI. Furthermore, the CIO brought PMP® training in-house; IT managers and leaders will participate in PMI activities (such as acquiring the PMP® credential and taking courses to accumulate professional development units) and connect with the external project management world.
As an individual project manager, the personal network may expand tremendously if the projects involve in-house IT and business resources, co-sourcing and outsourcing partners having local and off-shore resources, product vendors, contingent workers or parent company’s China IT team members. Together with the active participation in PMI activities, one’s social network is significantly larger than that earlier in C3-FI. New insight, external practices, public knowledge, competitor information, news of financial and IT industries and other knowledge beyond the organisational boundary of C3-FI may be learned through these broad social networks.

8.7. Case Study Three Conclusions and Summary

This thesis is exploring the impacts upon IT project management capabilities enhancement under the context of contingent employment in large Hong Kong organisations. This case study of C3-FI is a candidate representing a large Hong Kong commercial organisation that employs about 1,700 staff with over 100 of them are IT professionals. It is a representative case study organisation that hires a low percentage of contingent IT workers. In late 2009, when the case study interviews were conducted, less than 20% of the IT workforce was contingently employed. This is a control case in contrast to the first two case study organisations that utilise a significant percentage (over 50%) of contingent IT workers. Participants of C3-FI have provided reasons to show that the organisation does not prefer to employ contingent IT workers to deliver IT projects (see Section 8.4.1). Nevertheless, the IT project environment of C3-FI changed dramatically as the business went on a rapid expansion path followed by stabilisation. The IT group cannot only rely on its permanent employees to meet the dynamic demands. Using contingent employment strategy is one of the choices. However, the participants have expressed their concerns about contingent employment. Both positive and negative impacts are considered (see Section 8.4). C3-FI cannot afford to accept the negative impacts as financial institutions such as C3-FI rely on customers’ trust to operate. In a highly regulated industry, having high quality people overrides everything. Therefore, C3-FI insists on its human resources strategy as retaining core-knowledge in-house and bringing up their in-house leaders (see Section 8.2). In order to meet the dynamic IT workload, on top of adding headcount and hiring some more contingent workers, C3-FI is using the co-sourcing model with a few large vendors to supply resources or using outsourcing (see Section 8.2.4).

When facing these challenges, C3-FI is proactively taking action to improve its programme and project management capabilities on IT projects. Table 8.5 summaries the three-level four-process organisation learning model of C3-FI. It has relative strong operational and cognitive learning processes but weak reflective and social learning processes. The organisation learning practices of C3-FI are moving from a small team oriented mode toward a centralised model, relying on in-house IT staff, a centralised body of knowledge (PgMO) and centralised standards and methodologies (based on PPM) to create, capture and retain tacit and codified IT programme and project management knowledge. The new model still takes time to mature. Comparing C3-FI’s project management
practices with contemporary project management research, it is moving toward an advanced project management methodology and culture.

C3-FI’s IT project culture used to be self-contained, and teams worked in a silo structure. This is also reflected in the relative weak social learning processes. However, as the IT group expands to utilise more external parties to co-work with the in-house IT professionals and begins to practice formal project management, C3-FI has opportunities to capitalise on the new social networks to build social capital and enhance its IT project management capabilities for further success. There is much room for improvement on social learning processes and building social capital. C3-FI may consider expanding the role of the PgMO as the hub for the social learning processes such as facilitating cross project and team collaborations or networking with co-sourcing partners. Moreover, with the establishment of a few co-sourcing partners, they are sources of knowledge. On top of learning from practice on the job, C3-FI may encourage the establishment of some CoPs led by the PgMO in arenas that the in-house IT skills are insufficient or have future demands. C3-FI may use its parent company’s large IT department and may synergise the capabilities of its huge resource pool. Finally, with the in-house IT professionals going more outward to contact various parties, including industrial bodies, there are greater opportunities for C3-FI to extend its organisational learning model to learn through the its much broader social networks than ever before.
Chapter 9 - Case Study Comparative Analysis

9.1. Introduction

This chapter is the outcome of comparing the organisational learning practices across the three case studies in the context of contingent employment and large Hong Kong organisations regarding IT project management capabilities advancement.

The three organisations are all large Hong Kong organisations and major employers of the IT workforce. They are from different industry sectors with different organisational challenges. Nevertheless, they all rely on more effective IT project management capabilities to ensure their business success (see Section 6.3, 7.3 and 8.3) while facing the dynamic demand for IT resources to fulfill their fluctuating IT project workload (see Section 6.2, 7.2 and 8.2). They have gone through their own changing business progressions and developed their IT groups’ project management practices and resource strategies. Contingent employment resource strategy is a common strategy in C1-PB and C2-VD, while C3-FI has made a different resource strategy choice. The following sections of this chapter generalise the similarities and highlight key differences across the three case studies.

9.2. Organisation Characteristics

Comparing the three case studies, they have some differences in handling their business challenges and continuously advancing their IT project management capabilities. The following sections detail the comparisons, and Table 9.1 below highlights the comparative analysis outcomes. The table lists the case study organisations with the low (C3-FI), high (C1-PB) and very high (C2-VD) percentage of contingent IT workforce in sequence to perform the comparative analysis. It is a reference model to large Hong Kong organisations that look for best practices on advancing IT project management capabilities under the contingent employment context.
Table 9.1: Organisational IT project management learning model from comparative analysis

<table>
<thead>
<tr>
<th></th>
<th>C3-FI</th>
<th>C1-PB</th>
<th>C2-VD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business and organisational structure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business sector and imperatives</td>
<td>Finance sector (business growth and operation efficiency)</td>
<td>Public sector (achieving public policy objectives and operation efficiency)</td>
<td>IT sector (successful client business / projects and operation efficiency)</td>
</tr>
<tr>
<td>IT group organisation structure</td>
<td>Functional</td>
<td>Balanced Matrix</td>
<td>Projectised</td>
</tr>
<tr>
<td><strong>Project resource strategy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliance on contingent workers</td>
<td>Low (&lt; 20%)</td>
<td>High (50%)</td>
<td>Very high (75%)</td>
</tr>
<tr>
<td>Attitude toward contingent employment</td>
<td>Not a preference</td>
<td>Short-term resource strategy</td>
<td>Part of the project resource strategy</td>
</tr>
<tr>
<td>Contingent employment impacts on the organisation</td>
<td>Common positive impacts: flexibility, acquiring skills, flow of knowledge, headcount, and screening.</td>
<td>Common negative impacts: knowledge drainage, management of contingent workers, and attitude and quality concerns.</td>
<td></td>
</tr>
<tr>
<td>Demand for external IT skills</td>
<td>Experts with business domain knowledge and vendor solutions</td>
<td>Generic technical IT professionals with government process knowledge</td>
<td>Experts and generic technical IT professionals</td>
</tr>
<tr>
<td>Resource strategies</td>
<td>Retaining core in-house; co-sourcing; outsourcing; in-sourcing contingent workers; and adding headcount.</td>
<td>Retaining core in-house; outsourcing; in-sourcing contingent employment; and in-sourcing from China.</td>
<td>Retaining core in-house; outsourcing; in-sourcing contingent employment; off-shoring; and in-sourcing from China, overseas and corporate.</td>
</tr>
<tr>
<td><strong>Investments on project management capabilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project governance and support structure</td>
<td>PgMO, CQA</td>
<td>PMO, TA team</td>
<td>PMO, business operation team, people manager</td>
</tr>
<tr>
<td>Project management methodology and tools</td>
<td>Semi-structural (PPM)</td>
<td>Structural (CMMI, project portal)</td>
<td>Structural and complex (corporate methodology, local ISO, corporate KM, and others)</td>
</tr>
<tr>
<td>Project management learning</td>
<td>Cognitive learning and operational learning focus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.2.1. Business and organisational structure

C1-PB, C2-VD and C3-FI, have their own business imperatives that demand improvement in IT project management capabilities to ensure project and business success (see Table 9.1).
In C3-FI’s case, the business focus has been growing its business in the Hong Kong financial industry after it was acquired by a China-based financial institution. The IT projects should support both the growth and operational efficiency business imperatives (see Section 8.1.2). It organises its IT group in a functional structure (PMI, 2008a Figure 2-7). The IT group teams, except the programme management office, are aligned with the business functions (see Figure 8.2). Each team runs its own production operations and IT projects. This is similar to what the PMBOK® says, “Each department in a functional organisation will do its project independent of other departments” (PMI, 2008a, p. 28). Resource sharing across IT teams is uncommon (see Section 8.2).

C1-PB serves the low income families of Hong Kong. Its IT projects support C1-PB’s business imperative as it seeks to achieve the public policy objectives in the relevant area and improve operational efficiency (see Section 6.1.2). It employs a balanced matrix structure (PMI, 2008a Figure 2-9) in its IT group, as recommended by the PMBOK®, “the balanced matrix organisation recognises the need for a project manager, it does not provide the project manager with the full authority over the project and project funding” (PMI, 2008a, p. 29). C1-PB’s IT group has some teams aligned with the business functions (see Figure 6.2). Such teams run their own production applications and IT projects for the business functions similar to C3-FI. However, it also has project-based teams such as the ‘mega project’ and ‘application development’ teams (see Figure 6.2) that deliver projects across multiple business functions.

From C2-VD’s perspective, the core business of the IT service business unit under study is delivering client IT projects. IT project management capability is its core competence to win opportunities in the vigorous market competition (see Section 7.1.2). Delivering IT projects cost effectively with operational efficiency is essential to win the business. Its IT services business unit is the most projectised one (PMI, 2008a Figure 2-11) among the three case studies and accords with the view of PMBOK® that “most of the organisation’s resources are involved in project work, and project managers have a great deal of independence and authority. Projectised organisations often have organisational units [...] either report directly to the project manager or provide support services to various projects” (PMI, 2008a, p. 30).

9.2.2. Project resource strategy

Referring to Table 9.1 above, the case study organisations, C2-VD and C1-PB have a very high to high reliance on contingent IT workers that constitute 75% and 50% respectively of their total IT workforce. By contrast, case study organisation three, C3-FI, has a low reliance (< 20%) on contingent workers. The very high reliance on contingent employment in C2-VD to retain its competitiveness is part of the project resource strategy of C2-VD’s IT services business unit (see Section 7.2.3). In C1-PB’s situation, the introduction of contingent employment in the form of body-shoping contracts was meant for short-term oriented projects (see Section 6.2.2). Contingent workers
are supposed to be dismissed as soon as the short-term tasks finish. However, some contingent IT workers have continuous contractual renewal and remain with C1-PB on a long-term basis. Contingent employment has not been C3-FI’s preference despite it requiring a flexible workforce to support its one-off historic large project (see Section 8.3.2). Although the three organisations have implemented contingent employment to a different extent, they have some common views on how contingent employment impacts the organisations. There are more similarities than differences (see Tables 6.6, 7.6 and 8.4). The common positive impacts are flexibility, acquiring skills, flow of knowledge, headcount, and screening; and the common negative impacts are knowledge drainage, management of contingent workers, attitude and quality concerns (see Table 9.1).

Nevertheless, all three case study organisations have demands for an IT workforce to support the fluctuating IT project demands and market dynamics. Their demands for external IT skills are not the same. C3-FI normally looks for experts with knowledge of the finance industry and experience in the vendor solutions they are using. This has to do with its preference to use vendor solutions instead of developing custom built IT applications (see Section 8.2.3). It always employs experts from large vendors or partner organisations with such capabilities. C3-FI seeks rapid expansion so this leads to high complexity in its demand for IT capabilities. Its resource strategy expands to include ‘in-sourcing’, ‘outsourcing’, ‘co-sourcing’ and ‘adding new headcount’. C3-FI is the only case study organisation employs the ‘co-sourcing’ strategy (see Section 8.2.4).

C1-PB is different. It is a public organisation. External resources cannot develop business domain knowledge unless they have worked for C1-PB before. The external resources required are mainly those with generic IT technical skills and government project experience. Knowledge of government processes and technologies required are essential assets. On top of ‘in-sourcing’ contingent workers (including some from the Mainland China), it also fills its skill gap through ‘outsourcing’. The difference of C1-PB from the other two case study organisations is its workforce has more forms of employment. Its in-house employment includes civil servant employment, regular employment and direct contracts; while its contingent employment includes T-contracts, ‘skill bulk’ contracts or service contracts.

In the vendor environment, C2-VD demands all sorts of external skills depending on the projects it wins. It looks for a broad range of skills ranging from IT programming capabilities, technical skills to domain expertise. In addition to utilising a very high percentage of in-sourcing local contingent workers, C2-VD also employs strategies of ‘outsourcing’, ‘off-shoring’ and ‘in-sourcing’ from Mainland China. It also utilises overseas and corporate experts beyond C2-VD’s boundary to fill skill gaps that are not available locally.
Their resource strategies are not completely the same, but there are a lot of similarities. They all retain core knowledge by their in-house employees. Most of them are permanently employed except C1-PB includes the direct contract staff as in-house staff. ‘In-sourcing’ local contingent IT workers and ‘outsourcing’ projects to external parties are common. By ‘outsourcing’ or ‘co-sourcing’, there is the expectation that not all the work is performed in Hong Kong; having some work done in Mainland China or other places for example India. The ‘off-shoring’ strategy definitely expects IT work to be performed in Mainland China or other places. Moreover, those parties delivering outsourcing, co-sourcing or off-shoring work are IT services providers similar to C2-VD; they employ a significant percentage of contingent IT workers. This may imply IT work in large Hong Kong organisations employs contingent IT workers and the Mainland China resources directly or indirectly to deliver IT projects, while they always rely on the in-house IT staff to retain the core competences including business and IT knowledge.

9.2.3. Investment in project management capabilities

The three organisations choose the contingent employment strategy for different reasons, but they all gain the positive impacts (see Table 9.1 – common positive impacts). They are also well aware of negative impacts (see Table 9.1 – common negative impacts) and have spent time and effort to reduce such impacts. Referring to Table 9.1, all the three case study organisations have invested in use of project governance and support structures. C3-FI was at the stage of migrating from simple IT project management practices to structural ones. It use the compliance and quality assurance function, the CQA, to audit all types of projects including the IT projects to ensure C3-FI’s operation compiles with all internal and external regulatory requirements (see Section 8.3.1). The establishment of the programme management office, PgMO is “the biggest thing that [C3-FI has] done in relation to project management capability enhancement”, said Participant C3.B. It has further invested in tools such as PPM. C1-PB as a public organisation, project management investments include those made by the OGCIO. It structures its IT project management processes following the PRINCE2 methodology, which it has used for decades (it was established in 1989). C1-PB further enhances the methodology to comply with its CMMI processes, uses the CMMI portal and enriches the PMO functions to include a CMMI audit. With a number of large projects kicked off to revamp the legacy applications running on mainframe machines, the TA team was established to guide the architecture design and build up the in-house IT framework for all IT projects. It continues to run IT projects in a structural manner with continuous enhancement. C2-VD’s situation is similar to that of C1-PB. The project management investment begins with the corporate project management methodology. It is localised and obtained an ISO certification to be the local project management processes of the IT services business unit of C2-VD. Investment in tools such as KM systems also comes from its corporate office. The project management practices are structural and complex. The governance and support structure are also the most sophisticated one among the three case studies. There is a corporate level PMO, the business unit level business operation team, and people manager function.
Table 9.2: Common organisational learning practices. Source: Järvinen & Poikela’s (2006) process of learning at work model

<table>
<thead>
<tr>
<th>Social Processes</th>
<th>Reflective Processes</th>
<th>Cognitive Processes</th>
<th>Operational Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual:</strong> Context of individual's work</td>
<td>* Practice on the job</td>
<td>* Informal coaching</td>
<td>* Formal training</td>
</tr>
<tr>
<td></td>
<td>* Progressive job complexity</td>
<td>* Self study</td>
<td>* Formal qualifications</td>
</tr>
<tr>
<td></td>
<td>* Practice on the job</td>
<td>* Informal coaching</td>
<td>* Formal training</td>
</tr>
<tr>
<td></td>
<td>* Progressive job complexity</td>
<td>* Self study</td>
<td>* Formal qualifications</td>
</tr>
<tr>
<td><strong>Group:</strong> Context of shared work</td>
<td>* IT project execution</td>
<td>* Formal project assurance (e.g. IT project audit by PMO/PgMO)</td>
<td>* Formal project management methodology</td>
</tr>
<tr>
<td></td>
<td>* Project knowledge sharing</td>
<td>* Informal cross sharing</td>
<td>* Job rotation</td>
</tr>
<tr>
<td></td>
<td>* Informal cross sharing</td>
<td>* Job rotation</td>
<td>* Performance reviews</td>
</tr>
<tr>
<td><strong>Organisation:</strong> context of organisation's work</td>
<td>Not applicable</td>
<td>* Performance reviews</td>
<td>* Policies and guidelines</td>
</tr>
</tbody>
</table>

From the organisational learning perspective, all the three case study organisations are strong in cognitive and operational learning processes (see Section 6.5.2, 7.5.2, and 8.5.2). From the strongest to the weakest learning processes, the common sequence has been cognitive, operational, reflective and social. The only exception is C3-FI. Organisations relying mostly on internal staff (C3-FI) seem to have stronger operational learning practices than those (C1-PB and C2-VD) utilising a significant percentage of contingent workers. It may be because they have more focus to increase their in-house staff as home-grown leaders; staff are provided with opportunities to experiment with new ways to perform their work. Conversely, organisations (C1-PB and C2-VD), with a high reliance on contingent workers and external parties, spend more effort on cognitive rather than operational learning. This may be caused by the high mobility of the IT workforce, and codified knowledge has to be retained by formal project management processes, organisational policies and guidelines (see Table 9.2). The common learning practices summarising from Tables 6.7, 7.7 and 8.5 cross all three case study organisations are listed in Table 9.2 above.

9.2.4. Section conclusion

From the comparative analysis above, it may be implied that the business situation of a large Hong Kong organisation determines if there are demands for complex or a large number of IT projects. The composition of IT projects determines if its IT group should be organised more functionally or more projectised (see Section 9.2.1). An organisation’s IT group can select a point on a spectrum of organisational structures. With the growth of larger number of IT projects or more complex projects, it may change from functional (C3-FI) to balanced matrix (C1-PB) and then to a projectised (C2-VD).
structure. The project resource strategy (see Section 9.2.2) and the investment on project management capabilities (see Section 9.2.3) seem to be affected by the degree of organisational projectisation. The higher the projectisation requires a higher reliance on contingent IT workers as the organisation’s IT project resource strategy and use of a variety of resource strategies. As an organisation increases its reliance on external resources (including contingent workers), it demands for more investment on a project governance and support structure, project management methodology and tools. However, regardless of the dependency on external resources, all the three case study organisations prefer to capture the core organisational knowledge by in-house staff, while spending effort on cognitive learning and operational learning. C3-FI is an interesting example. It gradually changed from a low projectised structure, low structural project management and in-house small-team oriented IT group toward a model similar to that of C1-PB when the business situation demanded that its IT projects grow in size and complexity. In conclusion, the degree of projectisation, project resource strategies and investment on IT project management capabilities have to fit the organisation’s specific business dynamics and change over time.

9.3. Characteristics of Contingent IT Workers

Among the 18 participants from the three case study organisations, 10 of them have contingent employment history. Only one of the six participants in C3-FI has a short record on contingent employment; others do not have such experience. Therefore, this thesis mainly compares the cases of C1-PB and C2-VD from the individual contingent IT workers’ perspective. Participants of C3-FI have provided their viewpoints on the subject matter from their experience on hiring or managing contingent workers. The following paragraphs describe the identified common characteristics of contingent IT workers in large Hong Kong organisations.

9.3.1. Voluntary choices

Among the 10 participants with contingent employment history from case study organisations C1-PB and C2-VD, only one participant became contingently employed because of the poor economy and could not find a permanent job at the point of time he looked for a job. All other nine participants became contingently employed either by choice (seven) or by chance (two). In fact, seven of them chose to quit their previous permanent jobs to get into contingent employment. The reasons include acquiring marketable skills, career advancement, personal development or better salary (refer to Tables 6.3 and 7.3). Therefore, it may be concluded that it is common that an IT workers voluntarily choose to become a contingent worker when he or she sees there are opportunities to earn the benefits from the contingent employment that overcome the drawbacks (see Section 9.3.5).

9.3.2. Disadvantaged groups

There are exceptions. Fifteen of the 18 participants in the three case study organisations raise the concern that young IT professionals may involuntarily get into the IT industry as contingent workers
(see Sections 6.4.5.1, 7.4.5.2 and 8.4.3.1) as large Hong Kong organisations mostly prefer to hire experienced IT professionals. All the three case study organisations have such a preference. The participants have provided advice (see Sections 6.4.5.1, 7.4.5.2 and 8.4.3.1) to young IT professionals on how to survive and climb the career ladder in Hong Kong. The advices include: (i) continuous learning; (ii) learning on the job; (iii) owning one’s career development; (iv) having the right attitude; (v) performing well; (vi) networking; and (vii) gaining knowledge of high technology or business domains.

Nine participants from C1-PB and C3-FI state that IT professionals specialised in older legacy technology may also involuntarily become contingent workers (see Sections 6.4.5.1 and 8.4.3.2) when the economy is poor. They have a narrower job market and may have difficulty in finding a permanent job once they resign or are dismissed from their permanent positions.

9.3.3. Non-short-term basis contingent jobs

One interesting finding from C1-PB and C2-VD is that nine of the 12 participants state that ‘Stability’ is a key benefit to contingent workers. A contingent IT job seems no longer be labelled as temporary or short term. Continuous renewal is common in C1-PB (see Section 6.4.2), and C2-VD internationally retained a pool of stable extended workforce (see Section 7.4.2).

“[..] it is almost like perpetual employment. We have some long-term contingent workers” Participant C1.A.

“Practically, we continuously renew our EWF if they perform well and we have business demand”, says Participant C2.A.

“More and more companies choose to go down to that path - a permanent contract or a pseudo permanent contract” Participant C3.A.

Contingent IT workers may choose to remain and keep renewing contracts to work for the same employing organisations for a long time. In C1-PB, five of the six participants regard the contingent worker’s attrition rate as low (see Section 6.5.3); in C2-VD’s case, 40% of their contingent workers are stable and stay with C2-VD for over three years (see Section 7.4.2). Therefore, large Hong Kong organisation such as C1-PB and C2-VD seem to have preference to keep a pool of reliable and high-performing contingent IT workers and move them around to other projects or IT teams when renewing their contracts.

Even if a contingent worker resigns and leaves the employing organisation; there are possibilities that one will re-join the employing organisation. There are examples in C1-PB and C2-VD. In the case of
C1-PB, promotion to the next job level, especially to project manager, may require a body-shop IT worker to gain the specific job level’s experience in another organisation before rejoining C1-PB at a higher job level (see Section 6.4.4). For C2-VD, the resource manager keeps contacting ex-contingent workers (see Section 7.6.2) to invite them to rejoin the organisation on its latest projects.

Furthermore, when there are headcount establishments in commercial organisations, such as C2-VD and C3-FI, high-performing contingent IT workers have the advantage of being selected to fill these permanent positions. Therefore, a contingent relationship between the employing organisation and the contingent IT worker cannot be solely developed through a short-term basis.

9.3.4. Human resources agency as legal employer

Among the ten participants with a contingent employment history, four of them mainly have direct contract-only experience; six others are hired on a human resources agency contract by the employing organisations. In both C1-PB and C2-VD cases, the number of direct contract employees is much fewer than that of human resources agency workers. In C1-PB, the average percentage of contingent IT workers as a total of C1-PB’s IT workforce is about 50%. They are all under body-shopping contract employment through human resources agencies (see Section 6.2.2). In C2-VD, there is basically no direct contract employment in the IT services business unit under study (see Section 7.2.3). Seventy-five percent of this business unit’s IT workforce is contingently employed through human resources agencies. It seems that large organisations employing a high percentage of contingent IT workers (C1-PB and C2-VD) prefer to go through human resources agencies. An individual contingent worker, working for a large organisation in Hong Kong is likely to have a human resources agency as his or her legal employer.

9.3.5. Impacts of contingent employment

From the individual contingent worker perspective, there is high level of similarity in contingent employment positive and negative impacts. Table 9.3 summarises the common impacts from Table 6.6 of case study C1-PB and Table 7.6 of case study C2-VD. The common positive impacts are higher wages, career and personal development, remaining marketable, manageable workload, and stability; and the common negative impacts are job insecurity, less career development, lower benefits and working conditions, lower training and development investments, and a lack of a sense of inclusion.

Table 9.3: Common contingent employment impacts on contingent workers

| Contingent impacts on contingent workers | Common positive impacts: Higher wages, career and personal development, remaining marketable, manageable workload, stability. Common negative impacts: Job insecurity, less career development, lower benefits and working conditions, lower training and development investments, lack of a sense of inclusion. |
9.3.6. Enhancing project management capabilities

Table 9.2’s learning in the context of individual’s work lists the common learning practices of IT professionals to advance his or her project management capabilities across the three case study organisations. If case study C3-FI is excluded, there are three additional common learning practices at this level. They are: informal networking (social), learning from internal and contingent workers (reflective), and accumulating creditability (cognitive). These may be more specific learning practices toward contingent IT workers. The ‘temporary’ employment relationship between the contingent worker and the employing organising leads to fewer training and development investments and fewer career development opportunities for contingent workers (see common negative impacts in Table 9.3).

In order to advance one’s project management capability, a contingent IT worker has to be more self reliant than a permanent IT employee. One may plan for one’s own development and practise the individual level’s social, reflective, cognitive and operational learning and prepare to pay for one’s own development investments.

9.3.7. Section conclusion

By analysing the backgrounds and viewpoints of contingent workers from case study organisations C1-PB and C2-VD, it may be concluded that a majority of contingent IT workers working in large Hong Kong organisations voluntarily get into contingent employment work except for the younger IT professionals and older technology professionals who work on legacy systems. They may become contingently employed involuntarily because of the low marketability of their skills and the economic conditions. A contingent IT job in a large Hong Kong organisation may be one that is a non-short-term basis. Large Hong Kong organisations seem to prefer keeping a pool of stable contingent workers for different projects or IT teams. However, the legal employer of a contingent worker is likely to be a human resources agency instead of the employing organisation. One may choose to stay on contingent employment because of the positive impacts of contingent employment (see Table 9.3) or quit such status to escape from the negative impacts (see Table 9.3) by securing a permanent job. In order to advance one’s project management capability, a contingent IT worker is likely to practise the individual level’s social, reflective, cognitive and operational learning (see Section 9.3.6).

9.4. Changing Contingent Employment and Project Management Learning

9.4.1. Looking for a balance

Contingent employment has been practised in C1-PB and C2-VD for over a decade, and the size contingent workforce pool increased significantly in those years. Both C1-PB and C2-VD have experienced a rising trend of utilising contingent IT workers in the last decade (see Sections 6.1.2 and 7.2.3). However, the large number of contingent IT workers and continuous contract renewals becoming a norm caught the attention of the OGCIO, which has revised the policies to tighten the
control on the body-shop IT workers’ headcount, budget and employment duration since 2009/10. At the same time, C2-VD has revised its resource strategy to hire more young IT professionals to develop as future leaders instead of just hiring experienced employees (see Appendix C2) with contingent workers as supplements. This illustrates organisations employing a high percentage of contingent workers (such C1-PB and C2-VD) recognise that contingent employment is not a perfect solution to fill the resource or knowledge gaps on IT projects in long run. In fact, seven participants of C1-PB and C2-VD state there is need to identify a balance in the ratio of contingent and permanent workers (see Section 6.4.3 and Section 7.4.3). Too large or too small a ratio may not be ideal. In C3-FI, a similar but opposite view is observed. They have a low reliance on contingent IT workers. Five participants conclude that they should increase the proportion of contingent workers to gain any related benefits. Therefore, every organisation seems to look for a balance point on the ratio of contingent to permanent IT workers to suit its own needs at a specific point of time.

9.4.2. Immature contingent employment practices

Section 9.3.4 explains that large employers of contingent IT workers in Hong Kong such as C1-PB and C2-VD have a preference of hiring contingent workers through human resources agencies instead of direct contracting individuals as freelancers. Participants C1.A, C2.A and C3.A believe that Hong Kong’s contingent employment practices are not as mature as that of western countries. The freelancing trend is much slower than that in these countries. Some of the reasons may be Hong Kong’s professional insurance is less mature, and Hong Kong’s tax laws do not have tax incentives or exemptions for self-employed workers.

With contingent workers hired through human resources agencies, they are paid for the time spent at work, not on the value of deliverables. This is why participants of C1-PB (see Section 6.4.5.2) state that the ‘IT profession’ in Hong Kong is not a recognised professional such as that of a lawyer or an accountant. In Section 7.4.5.1, participants of C2-VD also express similar views. Not every customer measures the value of IT solutions or services in financial terms. The IT spending or project investment is calculated as the companies’ expenses. Therefore, IT professionals’ time spent is seen as expense to a project and is not measured by the value created.

With the human resources agencies playing a key role in Hong Kong’s contingent IT employment market, its role is essential. Participants of C1-PB (see Section 6.4.4 – ‘Agency exploitation’) have expressed concerns on the role of human resources agencies. Section 6.7.2 has discussed the different forms of intermediaries developing and supplying IT resources to employing organisations. Regarding the human resources agency as an intermediary, Section 6.7.2.2 concludes that “Today, the performance of Hong Kong’s agencies is such that contingent workers see joining any agency has no difference. They always work alone at the employing organisations’ premises. Practically, contingent workers do not have an organisation to take care of their training and career development”.

292
Therefore, it may be concluded that contingent IT workers working today in large Hong Kong organisations have to be self reliant for their future, the legal employer (human resource agency), employing organisation (project customer), and laws may not provide enough protection to them. The market is still immature. All these are areas for improvement that can further strengthen the contingent employment market, make IT a more ‘professional’ profession, and generate recognised value to the IT projects, organisations and Hong Kong community in the long run.

9.4.3. Under developed social learning

In the context of contingent employment, across the three case study organisation, they all have invested in advancing project management capabilities (see Section 9.2.3). All three case study organisations are relatively strong in the cognitive and operational learning processes, relatively weak in the reflective learning and the weakest in the social learning processes in Järvinen & Poikela’s (2006) process of learning at work model (see Sections 6.5.2, 7.5.2 and 8.5.2). From the perspective of obtaining project and organisational success, according to the contemporary model from Sauer & Reich (2009) to interpret project management success and failure of IT projects (see Sections 6.5.3, 7.5.3 and 8.5.3), the three case study organisations have all adopted contemporary IT project management practices and culture. However, their similar weakness has been not taking a proactive role in building social learning facilitations to fully capture the potential from its resources (including the in-house and external resources) across multiple projects.

It may be suggested from the similarities of the three large Hong Kong organisations that large Hong Kong organisations have not put in enough investment to encourage and facilitate social learning. Most of the social learning happens within the same project. In some situations, the senior IT manager (C1-PB), project director (C2-VD) or systems manager (C3-FI) may organise cross project learning within his or her own scope. The learning practices are mostly individual dependent. Therefore, there is no consistency even within the same organisation. The common social learning processes at the group level (see Table 9.2) are forming a project team with the right mix of people (including internal and external IT workers) to execute a project, and organising job rotation to ensure knowledge is well captured within the IT group. Large organisations are also likely to have a central structure such as the PMO (or PgMO) in the three case study organisations. Some may have additional central structures such as TA group (C1-PB), business operation team (C2-PB) or CQA (C3-FI) to diffuse organisation-wide project management knowledge to different project teams like a central hub. However, such central hubs do not own the cross project or cross team learning facilitation function. They normally guide or review projects one-on-one; cross-project learning activities are uncommon. Formal coaching or mentoring is uncommon in large organisations for the purpose of advancing project management capabilities. Nevertheless, contingent workers in these organisations are probably having less participation in social learning activities than internal staff. They may not be involved in formal
job rotation (but project rotation), have contact with the central hubs (such as PMO or PgMO), or be part of the internal networks. Moreover, their social network in a large organisation is likely to be smaller than that of permanent IT workers and limited to the project team or IT team they work with on projects. Their social learning opportunity is thus less than that of internal IT staff with the organisation.

### 9.4.4. Section conclusion

The demand on IT resources and capabilities to deliver IT projects in large Hong Kong organisations, such as the three case study organisations, varies according to the business need. Adding contingent workers and obtaining help from external parties are the solutions. Nevertheless, large organisations seek a balance point on utilising internal and external IT resources so as to fulfill the IT project workload while capturing the core knowledge in-house. The three case studies indicate that large Hong Kong organisations have increasingly used contingent IT workers in the last decade; however, the contingent employment practice is still immature. Contingent IT workers have not yet achieved the professional status as in other professions or practised the freelancer business model as in mature western countries. They are mostly employed by human resources agencies as their legal employers with their pay depending on time spent at work, not by the value generated. Large Hong Kong organisations are likely to have their investment in advancing the project management capabilities focus on cognitive and operational learning activities but not yet building adequate social learning facilitations to fully capture the potential from their project resources.

### 9.5. Networking for Better Social Capital

As represented by the three case study organisations, large Hong Kong organisations are likely to have adopted a project resource model with a high percentage of external resources (such as C1-PB and C2-VD) or prepare to expand their external partner pool (such as C3-FI). They have opportunities to form various people networks within and beyond their organisational boundaries (see Sections 6.6, 7.6 and 8.6). Some networks have a visible shape and boundary and are mediated by some internal leaders. Examples are C1-PB’s horizontal project networks (Section 6.6.2) and diagonal networks (Section 6.6.4); C2-VD’s project director trees (Section 7.6.1) and resource networks (Section 7.6.2); and C3-FI’s social network hub (Section 8.6.2.1) and co-sourcing partner networks (Section 8.6.2.2). Other networks are relatively volatile and informal without visible mediators. Examples include C1-PB’s vertical people networks (Sections 6.6.3), C2-VD’s organisational networks (Section 7.6.3) and C3-FI’s networks with its parent company’s China IT group (Section 8.6.2.3).

The outcome of developing and capturing social capital in networks with mediators is highly dependent on the mediators’ effectiveness. In all three case study organisations, the social networking activities with mediators are individual-dependent. Different senior IT managers or project directors (mediate horizontal project networks or project director trees), PMO or PgMO leaders (mediate
diagonal networks, social network hub or co-sourcing partner networks), and resource managers (mediate resource networks) may lead social learning activities of internal and external resources under one’s own charter. Two similar networks within the same organisation may not have common learning practices (see Sections 6.6, 7.6 and 8.6). For networks without visible mediators, the existence of the networks depends on the individual IT practitioners. An IT practitioner networks with co-workers at the project, group, organisational and beyond organisational levels. Learning from such networks is likely to be personal, and the effectiveness of learning from such networks is people dependent. Among the 18 participants, two have actively led activities in industrial bodies within and beyond the IT industry; four are active in PMI’s Hong Kong Chapter’s learning activities for retaining or obtaining their PMP® credentials; and most participants have mentioned they occasionally join industrial seminars or conferences related to IT or their organisations’ industries either with or without the organisations’ sponsorship.

In conclusion, the social capital development in relation to the project management capability is mostly due to each individual’s actions in large Hong Kong organisations. The PMO or PgMO is commonly established but may or may not actively capture social capital generated within or beyond the organisational boundary. Large organisations with more projectised structures (such as C2-VD) may establish certain formal structures such as the resource manager role to access, maintain and develop a capable workforce including internal and external IT workers.

9.6. Chapter Summary

This chapter compares the findings of the three case studies (see Chapters 6, 7 and 8). Contingent employment resource strategy is common in large Hong Kong organisations as they face challenges to delivery IT projects for business values. Organisations choose such strategy to gain any positive impacts and spend effort to manage the negative impacts (see Table 9.1). The comparative analysis concludes that the degree of projectisation, project resource strategies and investment on IT project management capabilities have to fit the organisation’s specific business dynamics and change over time (see Section 9.2). The business situation of organisations determines the IT projects’ scale and complexity. These factors lead the IT groups to be organised along the spectrum of functional, balanced matrix or projectised structures. An organisation with higher projectisation is likely to have a higher reliance on contingent IT workers and more resource varieties as its IT project resource strategy. In order to continue advancing its IT project management capability while depending on a increasing percentage of mobile external resources (including contingent workers), an organisation may invest more on project governance and support structures, project management methodology and tools; it may prefer to retain in-house staff to capture the tacit organisational knowledge and invest in cognitive and operational learning to retain codified organisational knowledge.
From the contingent workers’ perspective (see Section 9.3), they most probably get into contingent employment work voluntarily unless they are young IT professionals or older technology IT workers. They enjoy the positive impacts brought from contingent employment (see Table 9.3 – common positive impacts) although they may dislike or accept the negative impacts associated with them (see Table 9.3 – common negative impacts). The nature of such employment is contingent; however, the contingent workers may not stay in an organisation to complete one project for just a short time. Large Hong Kong organisations prefer retaining a pool of stable contingent workers. Performing contingent workers may probably have multiple contract extensions or even obtain permanent job offers from the employing organisations. In order to advance the project management capability to stay marketable, a contingent IT worker is likely to self invest and practise the individual level’s social, reflective, cognitive and operational learning (see Section 9.3.6).

Contingent employment is not a new practice in Hong Kong. Some large organisations (such as C1-PB and C2-VD) have used it for over a decade. However, its practice is still described as ‘immature’ by a number of participants from the three case studies. Large organisations continue to seek a balance point on utilising contingent IT workers. Too high or too low reliance on such workers may not be considered as ideal. Moreover, the legal employers of contingent IT workers are most likely to be some human resources agencies instead of a freelancer business arrangement; the pay of a contingent worker is tied with the time spent at work instead of the value generated. Contingent IT workers may feel they have not obtained the professional status or practised the appropriate business model as in mature western countries. Furthermore, large organisations are found to have invested inadequately in social learning to capture the potential knowledge gained from their pool of contingent IT workers.

The social capital development is concerned mostly with individual rather than organisational behaviour in large Hong Kong organisations. Within an organisation’s boundary social capital development is normally informal. Learning expanded to beyond the organisational boundary is not well mediated although various forms of social networks within and beyond the organisational boundary exist. It is an underdeveloped area in large Hong Kong organisations.
Chapter 10 - Conclusions and Areas for Further Research

Large Hong Kong organisations are part of a knowledge-based economy and within international cities have an increasing reliance on IT to connect effectively within and beyond the organisational boundaries to sharpen their competitive edge (CENSTATD, 2011a). The capability to delivery successful IT projects is essential to organisational success and thus the Hong Kong community. On the other side, contingent employment on IT projects has been a global phenomenon for over a decade that is expected to continue growing rapidly (Bidwell & Briscoe, 2009; eWeek, 2007; Holland et al., 2002; Loogma et al., 2004; Newswire, 2007; T. Sullivan, 2008). Previous research (Ng, 2008) and IT practitioners of Hong Kong large organisations (see Chapter 5) suspect that contingent employment policy (including employing contingent IT project managers) contributes to the risk of knowledge drainage and prohibits organisational learning. This will adversely affect the IT project management capabilities of organisations and risk survival in the business competition. From the researcher’s literature review of Hong Kong’s IT industry and project management capabilities development, there was limited referential research done on IT project management capability enhancement in the context of contingent employment although numerous studies were conducted around each three core theme (IT project management, contingent employment, and enhancing IT project management capabilities) of this research. Much relevant literature could be found if the ‘IT’ context was excluded. IT project management and capability enhancement or learning arenas literature was found to exclude the contingent employment context. The glue joining these three core themes is still missing. There is gap in the existing knowledge areas (see Chapter 1). This thesis is intended to fill this knowledge gap and identify insight into how contingent workers and organisations should prepare themselves to face the unavoidable increasing contingent employment trend and the demand for continuous IT project management knowledge enhancement in Hong Kong.

10.1. Research Findings

10.1.1. Research proposition

At the beginning of this thesis (see Chapter 1), the proposition of the research has been “contingent employment policy has an adverse impact on individual and organisation learning and causes a decrease in IT project management capabilities in large Hong Kong organisations”. This is because large Hong Kong organisations are likely to increasingly employ IT professionals using contingent employment terms. Employers select qualified contingent employees to fulfill specific needs of organisations but do not provide training and development investments to these employees. Likewise, contingent workers have no time or incentive to share their knowledge and experience to their temporary employers.
However, based on the three case studies (Chapter 6 to 8) and the comparative analysis (Chapter 9) of this thesis, the research proposition is not supported. From the organisation perspective, it is substantiated that the employing organisation generally does not invest in contingent IT workers’ capability development including project management capabilities. However, large Hong Kong organisations prefer to retain a pool of stable contingent IT workers (see Sections 9.2.2 and 9.3.3) and may convert high performers to permanent staff. Organisations such as C2-VD that heavily rely on contingent IT workers, including project managers to deliver successful IT projects, provide job-related training and development including sponsorship for the PMP® examination for contingent workers (see Section 7.3.2.1). Even public organisations such as C1-PB are working to invest in contingent workers (see Section 6.4.2). The heavy investment on cognitive and operational learning processes (see Section 9.2.3) is one of the mitigation strategies used to capture and retain organisational knowledge even as an organisation relies on a large number of mobile workers.

‘Contingent employment’ strategy is a planned resource strategy in most large Hong Kong organisation. As with any kind of risk on a project, with proper mitigation, the potential damages can be minimised.

“[A negative impact from contingent employment strategy] is a kind of risk like any other project risks. If the risk is too high, don’t do it, otherwise, mitigate it” Participant C2.A.

From an individual contingent worker’s perspective, the relationship with an employing organisation may not be a one-off encounter. It can be a multi-contract or resign-and-rejoin relationship (see Section 9.3.3). Therefore, contingent workers who look for contract renewals, or even to be converted to be permanent staff, are likely to demonstrate their performance on the job. In fact, ‘stability’ and ‘job insecurity’ are common positive and negative impacts respective to contingent IT workers (see Section 9.3.5). Eight out of 12 participants from C1-PB and C2-VD believe that permanent jobs in a volatile market may not be more secure than a contingent job. In C1-PB, participants see the ‘Job stability and predictability’ benefit overrides the drawbacks of ‘Job insecurity’; for C2-VD participants, contingent workers are as insecure or as stable as permanent workers when the economy is poor. Contingent workers tend to advance their IT project management capability by practising individual learning (see Section 9.3.6). They may choose IT projects or employing organisations so as to learn new marketable skills (see Section 6.4.2 and 7.4.2). They also practise self study, informal coaching and networking, learning from internal and contingent workers, and accumulating credibility (see Section 9.3.6). Some contingent participants (such as Participants C1.D and C2.D) see that they are prepared to fund formal learning and qualification activities on their own.

Therefore, it may conclude that contingent employment has imposed positive and negative impacts to both organisations and individuals. Such impacts demand organisations and individual contingent IT workers to adapt a suitable learning model to advance IT project management capability to suit the
context. Therefore, this thesis concludes that contingent employment policy does not have an adverse impact on individual and organisational learning. It does not cause a decrease in IT project management capabilities in large Hong Kong organisations.

10.1.2. Achieving research objectives

At the commencement of this research, five research objectives have been set. They are:

1. To explore the importance of continuous advancement of IT project management capabilities to business successes (see Sections 6.3, 7.3, and 8.3);
2. To identify and explain the contingent and permanent employment policies of IT professionals (including project managers) in large Hong Kong organisations (see Sections 6.2, 7.2, and 8.2);
3. To investigate and explain the impacts of contingent employment policies on IT project management capabilities advancement (see Sections 6.4, 7.4, and 8.4);
4. To identify and explain the practices of advancing IT project management capabilities as an individual, as a group and as a large organisation (see Sections 6.5, 7.5, and 8.5); and
5. To identify and present possible solutions to satisfy the needs to advance IT project management capabilities under contingent employment practice (see Sections 9.2, 9.3, 9.4 and 9.5).

The first four research objectives are achieved through the first three research phases: Phase I - literature survey, Phase II – pilot interview study and Phase III - case studies (see Section 4.3). Findings of research objective #1 have been documented in Sections 6.3, 7.3 and 8.3 of the thesis. It is about the ‘importance of IT project management capabilities’ of each case study organisation. Each organisation has its own business imperatives and has experienced changes over time. Their IT project management capability demands are affected by the dynamics in the IT technology advancement (such as C1-PB and C2-VD), economic conditions (such as C2-VD and C3-FI) or organisational objectives (such as C1-PB and C3-FI). There are differences in reasons, but they all seek continuous enhancement in IT project management capabilities for IT project success and hence business success.

Findings of research objective #2 have been documented in Sections 6.2, 7.2 and 8.2 of the thesis. It is about the ‘contingent employment policies and practices’ of each case study organisation. For each organisation, the permanent employment, contingent employment and IT project resource strategy have been studied over a period of time (ranging from five to over ten years). The findings indicate that the IT project resource strategy ties with the organisation’s business imperatives and the IT group’s organisational structure (see Section 9.2). It is characterised by the organisation’s reliance on contingent workers, attitude toward contingent employment, experience on contingent employment (positive and negative) impacts, demand on external IT skills and a mix of resources strategies (see Table 9.1). Findings of research objective #3 have been documented in Sections 6.4, 7.4 and 8.4 of the thesis. It is about the ‘impacts of contingent employment’ of each case study organisation. The positive and negative impacts from the organisational and individual contingent worker’s perspectives are analysed in C1-PB and C2-VD’s cases; only those of the organisational level are discussed in C3-
FI’s case as contingent employment is not a major resource strategy of C3-FI. Their similarities have been documented in Table 9.1’s ‘contingent employment impacts on organisation’. Other than the organisational and individual impacts, some participants from each case study organisation have expressed the impacts of contingent employment ‘beyond the organisational boundary’ (see Sections 6.4.5, 7.4.5 and 8.4.3). One common theme arises across all three case studies. It is ‘young IT professionals’ have a high likelihood to be on contingent employment in the early stage of their careers (see Section 9.3.2). Findings of research objective #4 have been documented in Sections 6.5, 7.5 and 8.5 of the thesis. It is about the ‘organisational learning and project success’ of each case study organisation. The findings are documented using Järvinen & Poikela’s (2006) process model of learning at work (see Tables 6.7, 7.7 and 8.5). The common learning practices are listed in Table 9.2.

Last but not least, the last research objective (research objective #5) is achieved through the last two research phases: Phase IV - comparative Analysis and Phase V - validation (see Section 4.3). Prior to finalising the comparative analysis and conclusion of this thesis, participants from each case study organisation voluntarily reviewed the respectively case study report of their organisation (Chapter 6 for C1-PB, Chapter 7 for C2-VD and Chapter 8 for C3-FI). Moreover, at least one representative participant (with a job position as a project manager or above) from each case study organisation has provided face-to-face feedback about the corresponding case study report and the reference models (Table 9.1 and Table 9.2) suggested from the comparative analysis. Sections 9.2, 9.3, 9.4 and 9.5 compare and conclude the findings from the three case studies and achieve the fifth research objective. Achieving this objective is the major contribution of this thesis. Details are described in the following section.

10.2. Contribution of the Research

10.2.1. Contribution to organisations

This research has achieved the research objectives defined at the beginning of the research (see Section 10.1). After exploring the practices and relationship between contingent employment and continuous enhancement of IT project management capabilities, the research further identifies possible solutions to satisfy the needs to advance IT project management capabilities under contingent employment practice. Suggestions for improvement were reviewed with experienced project managers and senior IT executives to validate the reference models (Table 9.1 and Table 9.2) suggested. This understanding of the current situation and its current impact and suggested solutions therefore obviate problems from the main contribution of this research.

Section 9.2 (see Tables 9.1 and 9.2) provides a feasible model for large Hong Kong organisations that seek contingent employment as one of their essential IT project resource strategies and need to continue enhancing their IT project management capabilities. Depending on the organisation’s
business situation, it can choose different organisational structures along a spectrum from functional to projectised to organise its IT group to deliver IT projects, and its level of reliance (low to very high) on contingent resources. Their choices lead to different investments in their IT project governance and support structures, project management methodology and tools. Nevertheless, organisations may develop their learning model by referring to the common organisational learning model (Table 9.2) or the respective learning model against the level of reliance on contingent resources (see Table 8.5 for low reliance; Table 6.7 for high reliance; and Table 7.7 for very high reliance).

In addition to the reference models, this research also identifies the alternative path taken by large Hong Kong organisations that do not prefer the contingent employment practice; however, they have the need to satisfy the dynamic IT project demands. Case study three, C3-FI, illustrates co-sourcing as an alternative. It gains the positive impacts while mitigates the negative impacts of contingent employment. Furthermore, the three case study organisations are not perfect in their current organisational learning. Further improvement suggestions are provided (see also Section 10.2.3). Other large Hong Kong organisations may also take them as suggestions to further advance their practices.

10.2.2. Contribution to contingent IT workers

This research also provides views from contingent IT workers. Section 9.3 provides an overview for contingent workers as to what they may experience as they enter contingent IT employment in large Hong Kong organisations. It lets contingent workers have a broader view on contingent employment and enables them to better understand their importance and contribution to organisational learning in enhancing IT project management capabilities. They are not learning in silos but in networks beyond the individual, IT project or even organisational levels. The positive impacts described by the case study participants (see Table 9.3) suggest that by selecting the right organisation and the right project, a performing contingent IT worker can enjoy the advantages (such as higher wages, career and personal development, stay marketable, having a manageable workload, and stability) and gradually advance in the project management career ladder. Young IT professionals may consider taking the advice (see Section 9.3.2) provided by the participants of the three case study organisations if they unavoidably enter contingent employment in their early career stage. This research enables the contingent IT workers to be ready to face the challenges as contingent IT workers and prepare to be self reliant on their training, development and career advancement.

10.2.3. Suggestions of areas for improvement

Sections 9.4 and 9.5 make conclusions from the three case studies stating that the contingent IT employment practices in Hong Kong large organisations still have room for improvement after developing these practices over one decade. Organisations may seek a better balance of the contingent
workers to permanent workers ratio, and the professional status of contingent IT workers may be further enhanced with improvements by the legal employer, employing organisation, and labour and tax laws arenas in Hong Kong community. Essentially, Sections 9.4.3 and 9.5 identify that the major deficiency has been organisations employing contingent IT workers have not yet fully capitalised the knowledge brought along by the dynamic nature of contingent employment. Further improvements are suggested on greater utilisation of the social networks built in-house with the mix of internal and external resources, networks connected beyond organisational boundaries in social learning (see Section 9.4.3) and social capital development (see Section 9.5). These are methods large Hong Kong organisations can fully capitalise by using their external resource pool (including contingent IT workers) to advance their IT project management capabilities.

10.2.4. Academic contributions

This research contributes to the body of knowledge at least in three areas. The first academic contribution is that it fills part of the knowledge gaps in the IT project management under the contingent employment context and achieves the five research objectives stated in Chapter 1 (see Section 10.1.2). From this thesis’ literature review of Hong Kong’s IT industry and project management capabilities development in Chapter 2 and Chapter 3, it was found that there is limited research on the IT project management capability enhancement in the context of contingent employment to reference. This thesis achieves the five research objectives stated in Chapter 1 (see Section 10.1.2). It extends and integrates the intended bodies of knowledge: IT project management, contingent employment and enhancing IT project management capabilities. This thesis takes three case studies (Chapters 6, 7, 8) as samples of large Hong Kong organisations that implement the contingent employment resource strategy to fulfill the IT project demands, and at the same time, they invest in IT project management capability enhancement through organisational learning processes to ensure successful IT project management and ultimately greater business success. The analysis of the three cases and the comparative analysis have taken the outcomes and models of literature surveys (see Chapter 3) of scholars and practitioners as the theoretical frameworks of this research. Under the contingent employment knowledge area, a summary of multiple literature surveys (see Sections 3.3.2 and 3.3.3) has been used as the initial list of positive and negative impacts of contingent employment from the organisation and contingent worker perspectives. Regarding enhancing IT project management capabilities at individual, group and organisation levels, Järvinen & Poikela’s (2006) process model of learning at work has been applied as the theoretical framework to capture and compare the learning processes of the three case studies regarding IT project management. When assessing how the case study organisations measure IT project management success, Sauer & Reich’s (2009) multiple process views of IT projects have been applied.

From the comparative analysis of the three case studies’ outcome, reference models of advancing IT project management capabilities under contingent employment context has been identified (see
Section 9.2). This is the second academic contribution of this research. Combining Tables 9.1 and 9.2 forms a feasible model for organisations employing contingent IT workers and continually enhancing their IT project management capabilities. It links up the areas of knowledge including organisational structure, project resource management, IT project management capability enhancement and organisational learning. According to the comparative analysis (see Section 9.2.4), the degree of projectisation, project resource strategies and investment in IT project management capabilities have to be aligned to fit an organisation’s business dynamics.

The third academic contribution has been identifying new knowledge areas that demand further study. In the context of contingent employment, with the mobile nature of the project resources, various forms of social networks exist informally (see Section 6.6, 7.6, 8.6), including the dynamic mix of internal and external resources of an organisation and beyond. The concept of social capital has been applied in analysing the three case study organisations. It is identified as one of the underdeveloped areas in large Hong Kong organisations. It is a knowledge area that is worth further study to identify the value of social capital to enhance IT project management capabilities. In case study one, C1-PB, the role of intermediaries and the concept of matrix economy (see Section 6.7.1) are described. In the new economy, organisations do not own their resources especially project resources; they work interdependently with intermediaries that supply resources or services on demand. It is another knowledge area that is worth further study to identify the roles of intermediaries in advancing IT project management capabilities or perfecting the contingent employment practices (see Section 9.4.2). In fact, these themes have been described by some of the case study participants. They see with the advance in IT technologies, such as cloud computing, mobile technology and internet solutions, there is no limit for an IT professional to connect with one another on social networks or work virtually on projects through the internet as an individual in the matrix economy. The value of social capital has not been fully capitalised.

This research provides a starting point for further research to advance these knowledge areas and provide stimulus to those with an interest in similar knowledge areas.

10.3. Limitations of the Research

As mentioned in Section 10.2.4, outcomes and models of literature surveys of scholars and practitioners have been used as the theoretical frameworks of this research to capture and compare the three case studies. Specifically, Järvinen & Poikela’s (2006) process model of learning at work (section 2.3) and Sauer & Reich’s (2009) multiple process views of IT projects have been applied as the theoretical frameworks. These frameworks provide structural ways to categorise and analyse data and facilitate multi-case comparative analysis. They help to highlight strengths and weaknesses of each case in social, reflective, cognitive and operational processes learning and measures of project success. By referring to these frameworks, the process of identifying areas of improvement is easier.
They are also tools to any large Hong Kong organisations to assess their situations, identify areas of weaknesses and provide suggestions for improvement.

Using the theoretical frameworks for analysis has the above mentioned advantages, but it also imposes risks. Some perspectives may have been omitted when data seem to fall outside the frameworks. In other circumstances, some data may have been forced into categories of the frameworks. Sometimes, it may be difficult to decide if certain pieces of data should fall into certain categories of the frameworks. The decision of picking one category instead of the other may affect the analysis results.

The conclusions listed in Chapter 10 of this thesis are limited by the scope of the study. The study focuses on IT project management capability enhancement in the context of contingent employment. The participants are mostly from the IT group of the case study organisations. The data collected regarding a case study organisation are drawn from a relatively small group within a large organisation. It could be biased. Furthermore, only three large Hong Kong organisations were studied; the findings therefore cannot be generalised to represent the situation of a typical large Hong Kong organisation.

### 10.4. Further Research Suggestions

Within the case study organisations, further research could be undertaken in areas of weaknesses such as the social learning processes or capitalising social capital so as to fully exploit their capabilities (including the contingent workers).

Identifying more Hong Kong large organisations to perform similar studies may also provide support for the reference models identified in Section 9.2. The models can become useful tools to organisations to structure the organisation and resources (including contingent IT workers) to deliver successful IT projects with continuous IT project management capability enhancement. Expanding the research to other geographic areas such as Mainland China may identify interesting results. Utilising contingent resource strategy to deliver IT projects has been practised in Hong Kong for a decade but is still ‘immature’ and has room for improvement (see Section 9.4.2). Mainland China’s IT project management is seen to be less developed as compared to Hong Kong. Applying similar research there may provide early opportunities for organisations to be better prepared for utilising more mobile resource strategies such as contingent employment.

Moreover, the third academic contribution listed in Section 10.2.4 suggests two areas of knowledge that are worthy of further study. They are the value of social capital in relation and the roles of intermediaries in enhancing IT project management capabilities and perfecting the contingent employment practices in the matrix economy.
10.5. **Summary of this Chapter**

This chapter draws a conclusion to the thesis by discussing findings from Chapter 6 to Chapter 9 that achieve the research objectives posted in Section 1.5, and discusses these findings in light of the previous research from the Hong Kong IT context and the literature review carried out in Chapter 2 and 3 respectively. This chapter has summarised the research findings related to the research proposition and the five research questions (see Section 1.4 and 1.6). It highlights the contribution to both the project management as practiced and in the academic knowledge areas. The research contributes to organisations having contingent employment as an IT project resource strategy by suggesting reference models to organise and develop organisational learning practices; and to contingent workers by providing a broad view of contingent employment and their ways to advance in their project management careers. It further suggests areas of improvement identified from the case studies as to ways large Hong Kong organisations can fully use their internal and external resource capital (including contingent IT workers) to advance their IT project management capabilities. Academically, this research has three contributions including filling part of the knowledge gap, linking up knowledge areas to suggest reference models of advancing IT project management capabilities under contingent employment context, and identifying new knowledge areas that demand further study. However, this research has its inherited limitations from theoretical frameworks and a small number of case studies. Therefore, the findings cannot be generalised to represent the situation of a typical large Hong Kong organisation. Future research suggestions are highlighted to future researchers to enhance the related knowledge areas.
References:


CENSTATD. (2007). *Hong Kong as information society*. Hong Kong: Census and Statistics Department - the Government of HK SAR.


CENSTATD. (2009b). *Hong Kong as information society*. Hong Kong: Census and Statistics Department - the Government of HK SAR.


CENSTATD. (2011b). *Hong Kong as information society*. Hong Kong: Census and Statistics Department - the Government of HK SAR.


Cheung, D. (2006). Hong Kong IT professional certification introduction - Dissemination seminar for IT project director and IT systems architect 2 December 2006: Hong Kong Institute for IT Professional Certification


Devine, C. (2011). *Illusions of technology project management* (Kindle ed.): Reefdog LLC.


Goldsmith, M. (2007). The contingent workforce - highly skilled professionals are fast joining the temp ranks, so start planning your career as a consultant now, says HotGigs CEO Doug Berg, *BusinessWeek*.


HKCS. (2004). *IT matters for Hong Kong survey*. Hong Kong: Hong Kong Computer Society.

HKCS. (2007). *IT professional roster system feasibility study* Hong Kong Computer Society.

HKCS. (2011a). *Hong Kong Computer Society announce the "Development of a certification roadmap for IT professional certification" project*. Hong Kong: Hong Kong Computer Society.

HKCS. (2011b). Press Release: The Hong Kong Computer Society announce the "Development of a certification roadmap for IT professional certification" project aligned with QF, the first framework for IT professionals' further development: Hong Kong Computer Society.


HKITPC. (2012). CPIT credentials Hong Kong Institute for IT Professional Certification.


ImmD. (2010). *Immigration Department annual report 2009-2010*. Hong Kong: Immigration Department, the Government of the HK SAR.


Sin, C. K. (2008). The trend of IT industry in Hong Kong. Hong Kong: Department of Electronic Engineering, the Chinese University of Hong Kong.


Staff, C. H. K. (2009c). Govt CIO: We need more contract staffers, *Computerworld Hong Kong* (Vol. 4-08, 2009, pp. 1).

Staff, C. H. K. (2009d). HSBC might sack 1,000 staffers; casualty mostly from IT, admin, *Computerworld Hong Kong* (Vol. 10-02, 2009, pp. 1).


Staff, C. H. K. (2009g). Robert Walters: 5.8 percent slump for Hong Kong IT jobs, *Computerworld Hong Kong* (Vol. 18-08, 2009, pp. 1).


Thibodeau, P. (2011). The race to cloud standards gets crowded, *Computerworld* (pp. 1).


Appendix A  Personal journey on project management learning

Experience of Researcher Leading to the Research

The researcher is currently a doctoral student of Project Management in RMIT University (Australia). Her research interests include project management in information technology (IT), knowledge management, workplace learning and organisational learning. The researcher has over 20 years industrial experience in delivering high-quality complex IT projects in the Greater China region. During her service at a leading global IT service provider, the researcher has held various roles in relation to project management such as project manager, project director, manager of the project management office, business manager of IT systems integration services, training and development manager and IT services operation manager. In the early 00s, the researcher has played an active role in leading a PMP® certification programme and ISO9001/2000 certification programme for the Hong Kong and China offices of the IT service provider she was serving.

Academically, in the late 80s, the researcher graduated from the Chinese University of Hong Kong (CUHK) with a Bachelor of Science degree in Computer Science. In the mid 90s, she obtained her Master of Business Administration degree (CUHK), which broadened her knowledge on business management and leadership. In 2001, she obtained her PMP® credential from the Project Management Institute. Recently, in 2008, the researcher furthered her study and obtained the Master of Education (Workplace) from RMIT, Australia.

Over the years, the researcher has led and managed numerous IT projects and some of these projects came to the researcher’s hand in critical conditions. These projects easily overran 50% to 100% in terms of time, resources and cost. Personally, the researcher learned a lot about project management by going through difficult times to recover these projects. However, such experiential learning was difficult, and a lot of time the learning was from the painful processes followed on the projects.

In early 2007, the researcher decided to suspend her career and proceeded to study in RMIT, Australia a Master of Education (Workplace) degree and a Doctor of Project Management degree. The triggering point has been the researcher found the job as a project manager is tiring though rewarding. After working as an IT project manager and implementing more and more complex projects, the researcher saw that it was time to take a break and rethink if there are better ways to acquire the capabilities required for running successful IT projects. The researcher always has a query in mind – can one learn to be a good project manager in an easier way?

Between 2007 and mid-2008, the researcher completed her Master of Education (Workplace) degree. The title of her graduate thesis is “The place of experiential learning in developing information technology project management capabilities in a large organisation” (Ng, 2008). The researcher
enjoyed the research process and decided to continue to pursue her doctoral study on project management. Currently, on top of her studies, the researcher is the vice general manager of an IT services offshore development centre in the Mainland China.

**Project Management Capability Learning Journey**

In the late 80s, when the researcher graduated with a Bachelor of Science degree in Computer Science, she knew nothing about project management. She started her career in an international IT service provider providing IT solutions to enterprises of various industries. She continued to serve in the same organisation until she left for her further studies in early 2007.

In the beginning of the researcher’s career, the projects she was involved in were relative small. One to two IT professionals could complete a project on their own. At that time, the jobs were named as ‘engagements’ or ‘tasks’. There was no concept of a project. As there were at most two persons on one job, the researcher basically played the roles of a project manager as well as a team member to complete a project. Ultimately, she ensured the customer finally accepted the work done and made payment. Gradually, with the growth in business and the economic boom in Hong Kong, the commercial enterprises and the government departments demand for more complex IT solutions. In the early 90s, the researcher’s employer bid and won its first major custom-built systems integration (SI) project for a Hong Kong government department. It was expected to be a one-year project that could be delivered by a team of about 10 IT professionals. The project manager of this very first project was an IT professional with seven to eight years of working experience. This was this young project manager’s first project beyond those two-person team projects. She was supported by an IT manager who had over 10 years working experience in the IT industry. Being inexperienced in running a government project, leading a large team and using leading-edge technology, the project manager ran into difficulty. All sorts of project issues occurred including poor quality, unreasonable and angry customers, low team morale, long working hours and serious cost overrun. In order to save the project, the researcher was one of the many additional resources drawn to rescue the project. The researcher’s initial role on this project was a systems analyst. Then, the researcher replaced the original project manager and took the role as project manager but with an official title as a deputy project manager. The IT manager, who originally played a support role, was officially named as the project manager to fulfill the contractual agreement. At the end, the project overran by one year with a team of 40 IT professionals at its peak. This was how the researcher began her project management career without knowing what a project manager was supposed to do. The term ‘accidental project manager’ has been coined to describe this non-untypical situation (Baccarini, 2006; Ensworth, 2001; Graham, 1992; Pinto & Kharbanda, 1995).

While the researcher was working on her very first project as an ‘accidental project manager’, her colleagues also followed the same path and accidentally joined into the project management arena.
The group that the researcher worked for was the SI department of the organisation. The focus had been on custom-built software development and package solution implementation on networked systems. In the 90s, this SI department recognised the need to develop project management capabilities within the department as the ‘engagements’ were getting more sophisticated. The management of this group led a series of improvement programmes including setting up a project management centre; defining its own project management methodology; organising in-house, custom-made project management training courses; encouraging project managers and to-be-project-managers to sit for PMP® credentials; and obtaining ISO certification for its project management processes. It was a period of heavy investment on project management capabilities development at the researcher’s department (or group).

By the late-90s, beyond the SI department, the researcher’s organisation recognised project management was applicable to different departments and day-to-day in-house tasks. It recognised that IT project management capabilities were among the most important competence that needed to be developed and retained in the organisation. A global project management methodology was rolled out to all departments globally. The organisation also began to establish a formal project management office, project management university and knowledge management infra-structure. Global governance was implemented, and standard metrics were introduced to monitor project health throughout the whole project life cycle from selling, delivery to maintenance.

With such investments, the researcher saw that there was significant advancement in project management capabilities at the individual, group and organisational levels. The rate of success (especially in financial terms) on small- to medium-sized IT projects significantly improved. The most obvious changes had been the use of common language and measurements to discuss projects. Unfortunately, the failure rate on large complex IT projects remained high. The researcher was asked to recover at least three very difficult projects from the late 90s to early 00s. It was normal that it took six to 12 months to turnaround a troubled project. These were very costly exercises.

In those days when the SI department and the organisation were heavily invested in enhancing project management capabilities, all project managers and most project team members running IT projects were employed under permanent terms. All the staff targeted to play the project manager role had opportunities to go through in-house project management methodology training and obtain sponsorship to participate in industrial project management certification programmes such as the PMP®. The researcher had played the role as ‘people development manager’ to develop consulting and project management capabilities to be the competitive edge of the SI department. For a few years, the researcher was a PMO manager and was responsible to roll out global project management processes throughout the Greater China region. This period has been the golden time that the
researcher obtained the best formal training, on-the-job development (workplace learning) on IT project management, knowledge management capabilities and learning by teaching experience.

After the year 2000, the IT industry experienced the dot com explosion and the economic downturn, the market became more cost conscious. Competition in terms of pricing was fierce. The investment on training and development activities in the SI department and the organisation gradually dropped. Project management methodology training and other skills development programmes were migrated to e-learning platforms. Face-to-face training classes were replaced by web-based training programmes. Professional certification programme sponsorships were continued but were provided in a low profile manner to permanent staff. With the maturity on the project management methodology and the establishment of necessary infrastructure, such as project repository, knowledge management database, online interest group discussion forums and others, the investment on project management capabilities enhancement decreased significantly at both the group level and the organisational level. Some related roles such as the people development manager, knowledge management leader and others were either merged into a single person’s job or eliminated.

Personally, the researcher continued to lead or sometimes rescue complex IT projects. There was an obvious trend that the percentage of contingent workforce was increasing. A significant percentage of project team members were employed under either direct contract with the project organisation or through an agency contract with multiple agencies. Every member’s contact terms and tenure were different. She found it became more and more difficult to serve as the project manager. The researcher needed to spend a tremendous amount of time to manage contingent workforces’ hiring, briefing, setting expectations, performance evaluations, resignations and contract renewals. In one of her projects, a project team of 70 members, 50% (about 35) were staff from the subcontractors, and 40% (about 30) were newly hired contingent IT professionals by the SI department. Only a few of the project team members were permanent staff. In some small- to medium-sized projects, even the project managers were contingent workers!

The researcher is not alone in experiencing such change. Hong Kong has an increasing trend of employing contingent staff on IT projects. Some projects may have over 50% of its project team members, including the project managers, on contingent employment terms. Hong Kong’s large organisations, including the ex-employer of the researcher, usually have an investment in project management and knowledge management to ensure IT project success. However, such investments normally are not applicable to contingent staff. At the time of this thesis, training budgets for permanent staff are cut to a minimalism, and realistically, no training budget is provisioned to the contingent workforce. From information access and knowledge management perspectives, the researcher also observes that contingent employment places the non-permanent staff in a disadvantaged position. The situation may be ever worse if the project manager is also a contingent
worker. Such IT project managers may be put into new projects or existing projects and start delivery from the day they report to duty. They may or may not be briefed on the business organisation’s project management practices, methodologies or standards. It is common that contingent project managers have no access to knowledge management systems or tools and limited people networks at the functional organisations or project organisations. They have difficulty to acquire organisational knowledge. The researcher sees that the new generation IT professionals, having a significant percentage of them work on various non-permanent contract terms, experience slow progress to become a recognised IT project manager. In fact, the term ‘contingent employment’ implies “the job inherently carries no job security” (Hodson & Sullivan, 2008, p. 329). Contingent employees are less willing to contribute their knowledge to the hiring organisations. Thus, these organisations face challenges to capture knowledge from their contingent project managers. As permanent staff leave the organisation, intellectual capital is lost.

In this new era, the researcher believes the trend of contingent employment has adverse impact on the project management capabilities advancement at the individual, group and organisational levels. The researcher would like to take the chance to conduct a research in this context while obtaining her Doctor of Project Management qualification. The outcomes of this research may hopefully contribute to identify ways to the further enhancement of IT project management capabilities under the irreversible contingent employment trend.
Appendix B  Case Study Interview Documents

Appendix B1 – Employer/ Employee Letters & Initial Interview Protocol

<Employer Letter>

Dear xxxxxxx,

My name is Chui Ha, Ng (Tracy).

I am conducting research as part of Doctor of Project Management at RMIT University. The title of my research is “Exploring contingent employment policy in IT - impacts upon IT project management capabilities enhancement in large Hong Kong organisations”.

In a knowledge-based economy, Hong Kong organisations demand continuous advancement of IT project management capabilities to provide strategic IT solutions. However, under the current economic downturn situation, Hong Kong organisations increasingly employ IT professionals (including project managers) under contingent employment terms. The aim of this research is to explore how contingent employment policy in large Hong Kong organisations impacts the enhancement of IT project management capabilities. The outcomes from this research may be used for improvement of IT project management capabilities enhancement in your organisation or used in future research, including possible related publications. This research has no funding from any organisations.

I cordially invite your organisation to participate in this research. I wish to interview six to eight personnel in your organisation who have roles associated with information technology project management.

In the process of research, each participant will attend a 30 to 45-minute interview at a venue of the participant’s choice. The draft interview protocol and questions are attached. The interviews will be audio recorded with the consent from participants. Their participation is voluntary and participants are free to withdraw from the research at any time and to withdraw any unprocessed data previously supplied. After the interview, the individual participant will receive the corresponding interview summary from researcher. He/she will help to check the accuracy of the summary. Participant may choose to withdraw at this stage. If some organisational documents can be shared with the researcher, the participant will supply a copy of document to the researcher. Participants may receive clarification phone calls from researcher on an as-needed basis. An initial research finding summary will also be sent to participants for voluntary feedbacks. Names of individuals, your organisational identity and industry will not be disclosed and will only be referred to by pseudonyms. The research report will document findings from multiple sources including interviews, literature and documentation reviews, in a generalised and summarised format. Individual interview records will be kept confidential. Every effort will be made to maintain participants’ anonymity.
Where possible, I would like to have access to some relevant documents of your organisation. Such documents may be, but not limited to, development plans, knowledge management policies, project management methodology, contingent employment policies, etc. All documents shared will be kept strictly confidential. Electronic files (including audio record files) and paper documents will all be locked in my home office cabinet. Electronic files will only be accessed at standalone PCs. Electronic files will be deleted after 5 years and hardcopies will be shredded before disposal after 5 years.

Should you have any further questions, please contact myself Chui-Ha Ng (Tracy), chui_ng@student.rmit.edu.au or my supervisor – Dr. Derek Walker, derek.walker@rmit.edu.au.

Your participation is highly appreciated. Thank you very much for your kind support on the research.

Yours faithfully,

Chui-Ha, Ng (Tracy)
Master of Education (Workplace)
Master of Business Administration
Bachelor of Science (Computer Science)
Certified Project Management Professional (earned from PMI in 2001)
Mobile: 9125xxxx
c hu_i _ng@student.rmit.edu.au

Any complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 1745.
Details of the complaints procedure are available from: www.rmit.edu.au/council/hrec
Dear xxxxxx,

My name is Chui Ha, Ng (Tracy).

I am conducting research as part of Doctor of Project Management at RMIT University. The title of my research is “Exploring contingent employment policy in IT - impacts upon IT project management capabilities enhancement in large Hong Kong organisations”.

In a knowledge-based economy, Hong Kong organisations demand continuous advancement of IT project management capabilities to provide strategic IT solutions. However, under the current economic downturn situation, Hong Kong organisations increasingly employ IT professionals (including project managers) under contingent employment terms. The aim of this research is to explore how contingent employment policy in large Hong Kong organisations impacts the enhancement of IT project management capabilities. The outcomes from this research may be used for improvement of IT project management capabilities enhancement in your organisation or used in future research, including possible related publications. This research has no funding from any organisations.

I cordially invite you to participate and involve in this research. Your knowledge and experience in information technology projects are very valuable to this research and future researches.

If you accept this invitation, please kindly read and sign the letter of consent and return to me prior to the interview. The interview will take 30 to 45-minute and be conducted at a venue of your choice. The draft interview protocol and questions are attached for your preview. With your consent, the interviews will be audio recorded. Your participation is voluntary. You are free to withdraw from the research at any time and to withdraw any unprocessed data supplied. After the interview, you will receive a summary of the interview with a request that you check the accuracy of the summary. You may choose to withdraw at this stage. If some organisation document can be shared with me, please supply a copy to me at your convenience. You may receive clarification phone calls from me on an as-needed basis. An initial research finding summary will also be sent to you for voluntary feedbacks.

In this research the names of individuals, your organisation and industry will not be disclosed and will only be referred to by pseudonyms. The research report will document findings from multiple sources including interviews, literature and documentation reviews, in a generalised and summarised format. Your individual interview record will be kept confidential. Every effort will be made to maintain your anonymity.

Electronic files (including audio record files) and paper documents will all be locked in my home office cabinet. Electronic files will only be accessed at standalone PCs. Electronic files will be deleted after 5 years and hardcopies will be shredded before disposal after 5 years.

Should you have any further questions, please contact myself Chui-Ha Ng (Tracy), chui_ng@student.rmit.edu.au or my supervisor – Dr. Derek Walker, derek.walker@rmit.edu.au.
Your participation is highly appreciated. Thank you very much for your kind support on the research.

Yours faithfully,

Chui-Ha, Ng (Tracy)
Master of Education (Workplace)
Master of Business Administration
Bachelor of Science (Computer Science)
Certified Project Management Professional (earned from PMI in 2001)
Mobile: 9125xxxx
chui_ng@student.rmit.edu.au

Any complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 1745.
Details of the complaints procedure are available from: www.rmit.edu.au/council/hrec
**Interview Protocol (Version 1.0):**

Good morning/afternoon/evening.

This research study is to be used for a Doctor of Project Management at RMIT University. In accordance with RMIT University ethics regulations I would like to confirm, that you have read and signed the consent form before we start the interview.

The goal of this study is to explore how contingent employment policy in large Hong Kong organisations impacts the enhancement of IT project management capabilities. The information generated from this research may be used for improvement of IT project management capability enhancement or used in future researches, including possible related publications.

*With your permission, I would like to audio record this interview.*

**Before we begin, I would like to notify you of the following:**

Your participation is voluntary. You may halt the interview at any time and/or choose not to answer any of the questions.

Your responses will at all times remain confidential. At no time will your identity be revealed either by the procedures of the study or during reporting of the results.

No negative consequence will result for choosing not to participate.

A copy interview summary will be sent to you for validation before use.

An initial research finding will be sent to you for voluntary feedback and a copy the final research report will also sent to you.

Your identify will at all time kept anonymous, including in interview summaries and all project documents.

**Interviewee Background:**

8. What is your current role in your organisation?
9. What are your years of service in your current position?
10. What are your years of contract employment history, if applicable?
11. What are your years of work in IT industry?
12. What key IT roles you have played in you work history?
13. What is your highest education level?
14. What is your formal project management qualification, if applicable?
Research questions:

From the PM and employing organisation perspective:

1. What are the reasons for hiring a contingent IT professional?
2. How does contingent employment of IT professionals impact effective project management at the project and organisational level?
3. How can any identified problems associated with hiring contingent employment of IT professionals be solved?

From the contingent contract IT professional perspective:

4. What are the reasons of becoming a contingent IT professional?
5. How can IT professionals hired on a contingent employment basis gain sufficient context-related skills and experience to be effective project team members?

Thank you for your participation in this research.
Appendix B2 – Interview Protocols

Interview Protocol v1.0:
Good morning/afternoon/evening.

This research study is to be used for a Doctor of Project Management at RMIT University. In accordance with RMIT University ethics regulations I would like to confirm, that you have read and signed the consent form before we start the interview. The goal of this study is to explore how contingent employment policy in large Hong Kong organisations impacts the enhancement of IT project management capabilities. The information generated from this research may be used for improvement of IT project management capability enhancement or used in future researches, including possible related publications.

With your permission, I would like to audio record this interview.

Before we begin, I would like to notify you of the following:

Your participation is voluntary. You may halt the interview at any time and/or choose not to answer any of the questions.
Your responses will at all times remain confidential. At no time will your identity be revealed either by the procedures of the study or during reporting of the results.
No negative consequence will result for choosing not to participate.
A copy interview summary will be sent to you for validation before use.
An initial research finding will be sent to you for voluntary feedback and a copy the final research report will also sent to you.
Your identify will at all time kept anonymous, including in interview summaries and all project documents.

Interviewee Background:
1. What is your current role in your organisation?
2. What are your years of service in your current position?
3. What are your years of contract employment history, if applicable?
4. What are your years of work in IT industry?
5. What key IT roles you have played in you work history?
6. What is your highest education level?
7. What is your formal project management qualification, if applicable?
**Research questions:**

From the PM and employing organisation perspective:

1. What are the reasons for hiring a contingent IT professional?
2. How does contingent employment of IT professionals impact effective project management at the project and organisational level?
3. How can any identified problems associated with hiring contingent employment of IT professionals be solved?

From the contingent contract IT professional perspective:

4. What are the reasons of becoming a contingent IT professional?
5. How can IT professionals hired on a contingent employment basis gain sufficient context-related skills and experience to be effective project team members?

**Thank you for your participation in this research.**

**Interview Protocol v 1.1 (Research questions):**

From the PM and employing organisation perspective:

1. How does contingent employment of IT professionals impact effective project management at the project and organisational level?
2. Utilising contingent IT workers is a strategy in your group. What policies and practices have put in place / will be implemented to continue enhancing project management capabilities under such strategy?
3. According to recent literature survey, Hong Kong IT industry has three trends to tackle keen competition and dynamic technological change challenges; they are outsourcing, employing contingent workforce, and integrating with China market. How do these trends affect project management capability enhancement in your organisation?

From the contingent contract IT professional perspective:

4. What are the reasons of becoming a contingent IT professional?
5. How can IT professionals hired on a contingent employment basis gain sufficient context-related skills and experience to be effective project team members?
Interview Protocol v1.2 (Research questions):

From the contingent contract IT professional perspective:
1. What are the reasons of becoming a contingent IT professional?
2. How can IT professionals hired on a contingent employment basis gain sufficient context-related skills and experience to be effective project team members?
3. If you are a contingent project manager/leader, what do you see are advantages or disadvantages in this role? How do you continue enhancing your project management capabilities?

Interview Protocol v2.1 (Research questions):

From the project director and employing organisation management perspective:
1. In your role as PD/management of your group, what do you see are the differences in managing projects that engage a large percentage of contingent workforce and those engage relative less contingent workers?
2. Utilising contingent IT workers is a strategy in your group. What policies and practices have put in place / will be implemented to continue enhancing project management capabilities under such strategy?
3. According to recent literature survey, Hong Kong IT industry has three trends to tackle keen competition and dynamic technological change challenges; they are outsourcing, employing contingent workforce, and integrating with China market. How do these trends affect project management capability enhancement in your organisation?

Interview Protocol v2.2 (Research questions):

From the contingent contract IT professional perspective:
1. What are the reasons of becoming a contingent IT professional?
2. How can IT professionals hired on a contingent employment basis gain sufficient context-related skills and experience to be effective project team members?
3. If you are a contingent project manager, what do you see are advantages or disadvantages as a project manager? How do you continue enhancing your project management capabilities?
Interview Protocol v3.1 (Research questions):

From the PM and employing organisation perspective:
1. What is the resource strategy of your organisation on IT projects?
2. What organisational or group level facilitations have put in place to ensure continuous enhancement in project management capabilities?
3. What is your view of the increasing trend of employing contingent IT professionals in some large Hong Kong organisations?

From an individual IT professional perspective:
4. How can IT professionals continue to advance the skills to stay marketable?
5. What is your view on the increasing number of IT professionals in Hong Kong being employed in contingent terms?

Interview Protocol v3.2 (Research questions):

From an individual IT professional perspective:
1. How do IT professionals acquire project management capabilities nowadays?
2. What organisational or group level facilitations have put in place to ensure continuous enhancement in project management capabilities?
3. What is your view on the increasing number of IT professionals in Hong Kong being employed in contingent terms?
Appendix B3 – Consent Form  

RMIT HUMAN RESEARCH ETHICS COMMITTEE  
Prescribed Consent Form For Persons Participating In Research Projects Involving Interviews, Questionnaires, Focus Groups or Disclosure of Personal Information  

PORTFOLIO OF Design and Social Context  
SCHOOL/CENTRE OF Property, Construction and Project Management  

Name of participant:  
Project Title: Exploring contingent employment policy in IT - impacts upon IT project management capabilities enhancement in large Hong Kong organisations  
Name(s) of investigators: (1) Chui Ha, Ng (Tracy) Phone: +852-9125xxxx  

1. I have received a statement explaining the interview/questionnaire involved in this project.  
2. I consent to participate in the above project, the particulars of which - including details of the interviews or questionnaires - have been explained to me.  
3. I authorise the investigator or his or her assistant to interview me or administer a questionnaire.  
4. I give my permission to be audio taped/photographed: Yes ☐ No ☐ (delete if inapplicable)  
5. I give my permission for my name or identity to be used: Yes ☐ No ☐ (delete if inapplicable)  
6. I acknowledge that:  
   a) Having read the Plain Language Statement, I agree to the general purpose, methods and demands of the study.  
   b) I have been informed that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied.  
   c) The project is for the purpose of research and/or teaching. It may not be of direct benefit to me. The privacy of the information I provide will be safeguarded. The privacy of the personal information I provide will be safeguarded and only disclosed where I have consented to the disclosure or as required by law. If I participate in a focus group I understand that whilst all participants will be asked to keep the conversation confidential, the researcher cannot guarantee that other participants will do this.  
   d) The security of the research data is assured during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided to RMIT in the form of a research project report, possible conference presentations and journal publications. Any information which may be used to identify me will not be used unless I have given my permission (see point 5).  

Participant’s Consent  
Name: (Participant) ___________________________ Date: ___________________________  
Name: (Witness to signature) ___________________________ Date: ___________________________  

Where participant is under 18 years of age:  
I consent to the participation of ___________________________ in the above project.  
Signature: (1) ___________________________ (2) ___________________________ Date: ___________________________  
(Signatures of parents or guardians)  
Name: ___________________________ Date: ___________________________  
(Witness to signature) ___________________________  
Participants should be given a photocopy of this consent form after it has been signed.  

Any complaints about your participation in this project may be directed to the Executive Officer, RMIT Human Research Ethics Committee, Research & Innovation, RMIT, GPO Box 2476V, Melbourne, 3001. Details of the complaints procedure are available at: http://www.rmit.edu.au/rd/hrec_complaints  

B-11
Appendix C  Case Study Triangulation Documents

Appendix C1 – Case Study One References

List of documents referenced in relation to C1-PB's organisation and strategies

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C1-PB public portal containing C1-PB's background, corporate vision, organisation chart, paper library, performance pledge, press releases, speeches, gazette notices, policy reports, statistics and publications (Accessed in September 2011)</td>
</tr>
<tr>
<td>2</td>
<td>Minutes for the Committee of C1-PB Mid-year Performance Review of the Programme of Activities (2010/11)</td>
</tr>
<tr>
<td>3</td>
<td>Minutes for C1-PB Reports from Chairmen of Committees (2010)</td>
</tr>
<tr>
<td>4</td>
<td>Minutes for C1-PB Reports from Chairmen of Committees (2009)</td>
</tr>
<tr>
<td>5</td>
<td>C1-PB 2011/20012 Corporate Plan</td>
</tr>
<tr>
<td>6</td>
<td>C1-PB 2010/20011 Corporate Plan</td>
</tr>
<tr>
<td>7</td>
<td>C1-PB 2009/20010 Corporate Plan and Annual Report</td>
</tr>
<tr>
<td>8</td>
<td>C1-PB 2008/2009 Corporate Plan and Annual Report</td>
</tr>
<tr>
<td>9</td>
<td>C1-PB 2007/2008 Corporate Plan and Annual Report</td>
</tr>
<tr>
<td>10</td>
<td>C1-PB 2008 Corporate Services Risk Management Plan</td>
</tr>
<tr>
<td>11</td>
<td>Minutes for the Study on Long-term Manpower Strategy of C1-PB 2007</td>
</tr>
<tr>
<td>12</td>
<td>Minutes for the Committee Programme of Activities for 2010/11</td>
</tr>
<tr>
<td>13</td>
<td>Minutes for the Committee Programme of Activities for 2009/10</td>
</tr>
<tr>
<td>14</td>
<td>Minutes for the Committee Programme of Activities for 2008/09</td>
</tr>
<tr>
<td>15</td>
<td>Minutes for the Committee Programme of Activities for 2007/08</td>
</tr>
<tr>
<td>16</td>
<td>Minutes for the Committee Programme of Activities for 2006/07</td>
</tr>
<tr>
<td>17</td>
<td>Minutes for the Committee Programme of Activities for 2005/06</td>
</tr>
<tr>
<td>18</td>
<td>Minutes for the Committee Programme of Activities for 2004/05</td>
</tr>
<tr>
<td>19</td>
<td>Minutes for the Committee Programme of Activities for 2003/04</td>
</tr>
</tbody>
</table>
## Appendix C2 – Case Study Two References

List of documents referenced in relation to C2-VD's organisation and strategies

<table>
<thead>
<tr>
<th></th>
<th>Document Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C2-VD international portal containing C2-VD's background, products and services, corporate objectives, values, culture, global citizenship, corporate governance guidelines, board of directors, corporate organisation chart, press releases, media announcements, financial results, learning and development, and career opportunities (Accessed in September 2011)</td>
</tr>
<tr>
<td>2</td>
<td>C2-VD Hong Kong portal containing C2-VD's Hong Kong office background, products and services, Hong Kong management team, press releases, media announcements and career opportunities (Accessed in September 2011)</td>
</tr>
<tr>
<td>3</td>
<td>Various speeches and interviews of C2-VD Hong Kong management team and key leaders as keynote speaker, panelist or guest speaker in public seminars, workshops and conferences in Hong Kong between 2007 and 2011 published in online media such as CIO-Asia, Computerworld Hongkong and ZDNet Asia.</td>
</tr>
<tr>
<td>4</td>
<td>C2-VD 2010 Annual Report</td>
</tr>
<tr>
<td>5</td>
<td>C2-VD 2009 Annual Report</td>
</tr>
<tr>
<td>6</td>
<td>C2-VD 2008 Annual Report</td>
</tr>
<tr>
<td>7</td>
<td>C2-VD 2007 Annual Report</td>
</tr>
<tr>
<td>8</td>
<td>C2-VD 2006 Annual Report</td>
</tr>
</tbody>
</table>
## Appendix C3 – Case Study Three References

List of documents referenced in relation to C3-FI's organisation and strategies

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The report of interview with C3-FI's CIO in 2011 published online in the &quot;An Interview with CIO&quot; of &quot;Who's who of financial services, FST Media&quot;.</td>
</tr>
<tr>
<td>2</td>
<td>The presentation made by the CIO of C3-FI in the China CIO Submit, Sanya Hainan, July 1, 2010.</td>
</tr>
<tr>
<td>3</td>
<td>The report of interview with C3-FI's CIO in 2009 published online in the &quot;An Interview with CIO&quot; of &quot;Who's who of financial services, FST Media&quot;.</td>
</tr>
<tr>
<td>4</td>
<td>The report of interview with C3-FI's CIO in 2007 published online in the &quot;CIO 1-on-1&quot; of &quot;ZDNet&quot;.</td>
</tr>
<tr>
<td>5</td>
<td>C3-FI public portal containing C3-FI's background, products and services, culture, news, press releases, media announcements, financial results and career opportunities (Accessed in September 2011)</td>
</tr>
<tr>
<td>6</td>
<td>Various speeches of CIO as keynote speaker, panelist or guest speaker in public seminars, workshops and conferences in Hong Kong between 2007 and 2011 published in online media such as CIO-Asia, Computerworld Hongkong and ZDNet Asia.</td>
</tr>
<tr>
<td>7</td>
<td>Video interviews of C3-FI's CIO found online in relation to C3-FI and IT (Accessed in October, 2011)</td>
</tr>
<tr>
<td>8</td>
<td>2010 Annual Report of C3-FI</td>
</tr>
<tr>
<td>9</td>
<td>2009 Annual Report of C3-FI</td>
</tr>
<tr>
<td>10</td>
<td>2008 Annual Report of C3-FI</td>
</tr>
</tbody>
</table>