Negotiation in the Sourcing Process between Partners in the E-Procurement Network: An Actor-network Perspective

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Negotiation in the Sourcing Process between Partners in the E-Procurement Network: An Actor-network Perspective

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

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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 the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

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Abstract

Procurement is a core activity for organisations. Research indicates that in a profit environment, assuming a 20 percent gross margin, every dollar saved in procurement costs will result in a five dollar saving (Hawking and Stein 2003). Hence, for buying organisations to reap the benefits of cost savings, they need to spend more time and effort on upstream procurement activities such as qualifying suppliers, negotiating prices and terms, and building rapport with strategic suppliers (Turban 2008). Advanced technologies such as electronic procurement (e-procurement) systems can facilitate effective approaches to procurement processes including contract negotiation. However, in order to effectively support business negotiations with electronic tools, a strong understanding of real-life business negotiations is required (Schoop 2008). Buying organisations need to understand the factors that influence negotiation in e-procurement because e-procurement involves multiple parties that are networked via the sourcing process and the technologies being utilised. Thus, it is important to investigate the influencing factors of negotiation in the e-procurement context. By identifying and understanding the factors that influence the negotiation process, the value chain between partners in the e-procurement network can be enhanced. By improving the negotiation process, it is hoped that greater success in e-procurement will be achieved.

This research is a study of negotiation between the partners in an e-procurement network, during the sourcing process. The researcher views this study from the perspective of actor network theory (ANT). The actor network theory is appropriate for use in this study because it identifies and acknowledges the key human actors and non-human actors within an organisation, and the effect that such actors may have on the potential social issues that might arise. ANT is used to investigate issues in the negotiation process that incorporate human actors (such as buyers and suppliers) in order to understand how the interaction between these actors can affect the negotiation process and to identify other factors that may influence the negotiation process. The relationships amongst actors play an important role in e-procurement practices. The concepts of actor, actor-network and the
translation process are used in this study to explain the relationship between the actors that influence negotiation in an e-procurement network. These concepts are applicable because the identification of both human and non-human actors in the negotiation process utilised in e-procurement is a critical requirement for effective negotiation. The main concept behind translation is the process of different actors’ interests becoming aligned to form alliances, thus helping to develop and stabilise the network. Hence, the approach used in this study is to identify and trace networks by following the actors’ activities in the e-procurement negotiations, and to examine the relevant new actors involved.

This research employs an interpretive case study approach, applying qualitative data capture and analysis methods. The researcher conducted case studies involving four organisations based in Melbourne, Australia. Of these organisations, two were in the public sector and two were in the private sector. Procuring organisations were asked to identify suppliers that had participated in their e-procurement transactions, so that the matched perspectives of procuring and supplying organisations could be identified. The two case studies for the public sector were conducted at two different universities in Melbourne. The other two case studies that represented the private sector were conducted at a car manufacturing company and an aviation company. The data collection technique used in this research was face-to-face interviews. A semi-structured interview was used to capture data, after which the researcher used the steps of thematic analysis to analyse the data. The purpose of using thematic analysis was to identify the social issues that influence negotiation in an e-procurement network.

The findings of this research are that negotiation in e-procurement is essential in arranging the procurement of goods and services between trading partners. Negotiation in e-procurement between both the trading partners and the other parties that influence the negotiation process is essential in procuring goods and services. Negotiation in e-procurement is a complex process which requires the involvement of human and non-human actors. The identification of the social issues influencing negotiation in e-procurement is an important element to assist the decision-making of the trading partners and other parties involved in the negotiation process. The social issues identified in this
study can be used as a basis for a business strategy which can ensure that procurement processes can effectively operate in the electronic business environment. It is important to recognise that the human and social aspects of negotiation can affect the use of electronic support tools. By understanding the influence of social issues as factors influencing negotiation in e-procurement, it is likely that the use of e-procurement can enhance collaboration between stakeholders involved in business trading. Thus, e-procurement devices, such as e-tendering, email and ordering systems, can help stakeholders to expedite the negotiation process.
Publication Associated with the Thesis

The following papers were written as part of the research of this thesis:


Chapter 1 – Introduction

1.1 Introduction

This thesis is a study of the negotiation between partners in an electronic procurement (e-procurement) network, with a particular focus on the sourcing process. Negotiation in the real world is a complex process and takes place in a variety of settings, such as in personal lives, and as an aspect of business, government and international diplomacy. Most business negotiations are undertaken within the context of corporate procurement and the sales process. With the use of Internet-based technologies to procure goods and services, the sourcing process of multiple goods or services usually involves complex negotiations. Advanced technologies such as those utilised in e-procurement can help facilitate effective solutions for negotiation between trading partners. However, in order for business negotiations to be effectively supported by electronic tools, a strong understanding of real-life business negotiation is required.

1.2 Background

Negotiation is an essential business activity employed in establishing trade relationships between partners (Yuan and Turel 2004). As the business environment becomes more dynamic, negotiations between partners must occur on a regular basis. Advancements in information technology have helped to design information systems, which in turn can help facilitate effective solutions for negotiation (Bichler et al. 2003). However, factors such as culture, trust, and partner sourcing also play a role in the negotiation process (Bichler et al. 2003). Negotiation is the key decision-making approach used to reach a consensus in regards to whether or not partners can achieve their goals. For this reason, organisations need to understand the importance of the negotiation process in the e-procurement environment.
E-procurement plays a role in providing fundamental support to the way that organisations conduct traditional procurement activities, by automating and simplifying many business processes and transactions (Turban et al. 2008). One of the processes supported by e-procurement is sourcing, and this has been identified as an important component of the procurement process (Cerquides et al. 2007). Aguiler et al. (2007) claimed that the sourcing of multiple goods or services usually involves complex negotiations that may include the discussion of a product’s features, as well as its quality, services and availability. As such, there is a need for a negotiation strategy to be integrated into the sourcing process, in order to ensure that effective and mutually-beneficial negotiation can be achieved.

Negotiation is an important part of the sourcing process utilised in procurement. The evolution from the traditional procurement process to an e-procurement process simultaneously encourages the utilisation of negotiation processes based on electronic processes. Every modern company operates within a complex web of relationships which requires some form of negotiation, particularly in regard to the arrangement of purchasing and outsourcing contracts with suppliers (Ertel 1999). As the use of e-procurement shifts the balance of power from suppliers to buyers (Wyld 2001), there is a need for purchasing organisations to place greater value on the importance of negotiation as part of the sourcing process involved in e-procurement. By recognising the importance of such negotiation, purchasing organisations will reap benefits at operational and strategic levels, including consolidating purchasing practices that will lead to greater discounts and better services for suppliers, faster responses to highly-competitive new market entrants, the elimination of paperwork and its costs, and the reduction of inventory levels (Attaran and Attaran 2002). In order for partners within both the private and public sectors to achieve these benefits, they have to understand that the implementation of e-procurement, and specifically the negotiation between partners as a part of the sourcing method, is one of the key elements of the procurement process.
1.3 Problem Domain

Procurement is a core activity for organisations (Turban et al. 2008) and sourcing is one of the critical steps in buying goods and services whereby individuals or groups analyse, assess and select a vendor and their goods and services based on certain specifications and requirements (United Parcel Service of America 2005). Aguiler et al. (2008) claimed that the sourcing process for multiple goods or services usually involves complex negotiations that include a discussion of the product’s features as well as quality, services and availability issues. As such, there is a need for negotiation to be integrated into the strategic sourcing process. Furthermore, managerial teams, such as supply managers and purchasing managers, need to understand the importance of negotiation in strategic sourcing (Smeltzer et al. 2003). Negotiation is one of the elements in the sourcing process (Puschman and Alt 2005) and it is one of the factors that have a significant influence in the implementation of Internet sourcing strategies (Smeltzer et al. 2003). When electronic commerce moves into a business-to-business (B2B) marketplace, negotiation becomes more complex. The contracts can be done electronically with communication among trading partners occurring throughout the system, which includes negotiating a supply contract between manufacturers and suppliers. Schoop et al. (2008) claimed that to support business negotiations with electronic tools effectively, a deep understanding of real-life business negotiation is required.

One of the main challenges faced by a buying organisation in using e-procurement is the inability of the e-procurement market to supply a comprehensive procurement service that can be tailored to the unique needs of the individual buying organisation. An example of such a need would be to build trust between a customer and a supplier organisation in order to effectively integrate strategic sourcing and procurement services with the best technology available. This will cause problems for buying organisations in procuring goods and services, because the procurement process should ensure that buying organisations can procure goods or services from suppliers based on five “rights”, which are the ability to purchase items at the right price, the assurance that they will be
delivered at the right time, delivered in the right quality, delivered in the right quantity, and that they will be purchased from the right source (Chaffey 2004). Therefore, strategic sourcing can have a profound impact on the procurement process.

Sourcing is one of the critical steps involved in procuring goods and services and relates to the important decisions of what to buy, how to buy, who to buy from and how to manage relationships with suppliers. Glassberg et al. (2008) stated that a cornerstone behind improved procurement performance is strategic sourcing. The mission of strategic sourcing is to maximise the value of suppliers, while minimising the total cost of ownership (TCO) as related to materials and services. Strategic sourcing can have a profound impact on a company’s finances, and can strongly influence the purchasing and procurement processes (Yen and Ng 2003). Thus, by exploring the relationship between negotiations as part of the sourcing processes and sourcing as part of the procurement process, purchasing organisations can develop a greater awareness of the importance of understanding negotiation within the sourcing process, particularly within the e-procurement environment.

Purchasing organisations also need to understand the relationship between negotiation, sourcing and procurement, and to understand the social issues influencing negotiation in e-procurement because e-procurement involves multiple parties that are networked via the sourcing process and the technologies used. In addition, social and technical factors such as culture, trust, and relationships with trading partners, all play important roles in the negotiation process (Bichler et al. 2003). As Lee (2001, p. iii) highlighted, information system (IS) research “examines more than just technological systems, or just the social system, or even the two systems side by side; in addition, it investigates the phenomena that emerges when the two interact”. Thus, the focus of interest in the present research is identifying the social issues that influence negotiation in the e-procurement network and the potential social issues in business negotiations in the e-procurement network including culture, trust, the business relationship among trading partners and collaboration.
Hofstede (1989) argued that sharing a similar professional culture could make it easier for people from different countries to discuss issues successfully. In a similar vein, Adair et al. (2004) investigated the strategies used by negotiators in different cultures (France, Russia, Japan, Hong Kong, Brazil and the United States) and found that understanding the other party’s cultural characteristics and strategies can help negotiators plan how to focus on information exchange. One study on Sino-Western business negotiations found that understanding the international business professional culture and national culture of another country can influence the choices of strategies which will assist negotiators in business negotiations (Sheer and Chan 2003). Corbitt et al. (2004) pointed out that many organisations are doing business beyond their national boundaries and these global activities are facilitated and supported to a large extent by current communication and information technologies; thus, it is important to understand the impact of cultural differences on these activities. Woo and Prudhomme (1999) found that for the negotiation process to succeed there is a need for the negotiator to understand the behavioural culture of the other party.

Trust is another issue that needs to be considered in the negotiation process. The relationship between buyers and suppliers must be based on trust (Chan and Lee 2003; Ramayah et al. 2008). Previous research has shown the role of trust in organisational behaviour and inter-organisational relationships (Homann et al 2005, Thompson and Nadler 2003). Further research on the concept of trust has been discussed in business-to-business e-commerce related to the risks of trading online (Ratnasingham 1999). According to Ratnasingham (1999), factors such as opportunistic behaviour, uncertainty, coercive power and conflict among partners have an impact on trust in relation to risks among trading partners in e-commerce adoption and integration. In the social perspective, the concept of trust in the e-commerce environment is based on the idea of amoral duty which consists of two components, namely, how we feel about being trusted, and how we feel about having to trust other people (Ratnasingham, 1998). Butler (1999) pointed out that trust was a crucial condition in information sharing between negotiators.
Another potential social issue influence that may influence business negotiations in e-procurement is the relationship among the trading partners. Rammal (2005) pointed out that there is a need to build the relationship between business negotiators. As stated by Carr and Pearson (1999), the strategic management of long-term relationships with key suppliers can deliver a positive impact on financial performance. Carr and Pearson (2002) highlighted that the involvement of purchasers and suppliers has a positive impact on strategic purchasing. In addition, Thompson and Nadler (2003) discovered that negotiators who have a positive relationship are more likely to exert a positive influence during the negotiation process. Thus, one issue that needs to be considered in business negotiations is the relationship that the buyer firm has with its suppliers. Ritter et al. (2004) argued that the focus on understanding business relationships and networks was shifting to managing business relationships and networks. The ability to develop and maintain effective and productive relationships with other members in business is a fundamental priority for managers (Ritter et al. 2004). Thus, managing relationships with trading partners in business is an important element in business.

Another issue that warrants consideration is identifying the possibility of collaboration with suppliers and partners through contract negotiation (Gabauer and Segev 2001). Forrester Research (2003) suggested that a different sourcing strategy is needed in each stage of the sourcing process, including the contract negotiation stage because the direct materials or production-related goods cannot be purchased solely on the basis of price. Mihaly (1999, p.4) found that “leading companies know that today collaboration- not competition- wins business wars”. McIvor and McHugh (2000) stated that when adopting collaborative buyer-supplier relationships, it is essential to assess the impact of those most affected by new developments. This assessment is likely to reveal a need for training in regard to skill acquisition and development in a variety of areas including teamwork, problem-solving, negotiation, and conflict management. By incorporating collaboration techniques between procurers and suppliers, business negotiations in e-procurement may operate more effectively.
As social issues influence business negotiations, it is important to investigate the influencing aspects of negotiation within the e-procurement context. By identifying and understanding the social issues that influence negotiation processes, the value chain between partners can be improved within the e-procurement network. By improving negotiation processes, it is hoped that greater success in e-procurement practices will be achieved.

1.4 Objectives and Research Questions

The main aim of this thesis is to contribute to our understanding of business negotiations as part of the sourcing process in the e-procurement environment. In particular, this thesis concentrates on the social issues that influence negotiation within an e-procurement environment. This thesis investigates negotiation in the sourcing process between procurers and suppliers in the public and private sectors in Australia. Building on the findings and arguments from previous research on business negotiations, this thesis addresses the main research question:

*How does negotiation operate in the sourcing process between partners in an e-procurement network?*

In order to answer the main research question, the following sub-questions were formulated to facilitate the research process:

1) What are the roles of buyers and suppliers in the negotiation process within an e-procurement network?

2) What are the social issues that influence the negotiation process used in an e-procurement network?

3) What are the differences and individual effects of the negotiation processes utilised in public and private sector e-procurement networks?
This research makes a significant contribution to the emerging field of negotiation in the sourcing process in relation to e-procurement. First, this research provides knowledge to practitioners in regard to the importance of negotiation methods in the sourcing process between partners in an e-procurement environment. Second, this research improves the value chain between partners in e-procurement by identifying and understanding the social issues that influence negotiation processes. Third, this research helps to achieve greater success in e-procurement practices by improving the negotiations between partners within the sourcing process. Fourth, this research demonstrates how the actor-network theory (ANT) can be used as a strategy to analyse and understand the challenges faced by the relevant organisations.

1.5 Methodology

The qualitative method is used to enable the researcher to answer the research question. Furthermore, this study will be driven by the interpretive paradigm (Denzin and Lincoln 2000) as interpretive research attempts to understand a phenomenon through accessing the meanings that participants assign to them (Klein and Myers 1999). This research adopts the case study research method as this is an exploratory study and the researcher needs to obtain in-depth data on negotiation in the e-procurement environment. The procuring organisations studied in this research were chosen based on the criterion of the organisations having used e-procurement as a mechanism in procuring goods or services.

Procuring organisations were asked to identify suppliers that had participated in e-procurement, so that the matched perspectives of procuring and supplying organisations could be identified. The procuring organisations that participated in this research represented a diverse set of industries, including manufacturing, aviation and education. The researcher conducted two case studies in the public sector at two different universities in Australia. Two further case studies that represented the private sector
were conducted at a car manufacturing company and an aircraft company in Australia. Pseudonyms for the organisations are used in this thesis.

Easterby-Smith et al. claimed that the most fundamental and effective of all qualitative methods is that of in-depth interviewing. Therefore, the technique used for data collection in the present research was face-to-face interviews (Creswell 2003; Neuman 2007; Easterby-Smith et al. 2002). Data collection occurred during the spring of 2009 (pilot test), and from the spring of 2010 until the end of 2011. The data collected from the face-to-face interviews was analysed using thematic analysis. Two forms of data analysis were employed in the course of the research, namely, within-case analysis and cross-case analysis. Within-case analysis included the analysis of transcripts from the face-to-face interviews, while cross-case analysis included analysis reflecting upon the final lists of social issues influencing negotiation in e-procurement in the public and private sectors (Boyatsiz 1998).

1.6 Thesis Structure

Chapter 2 provides an overview of the literature pertaining to the negotiation process used in sourcing as part of the e-procurement environment. A review of the concepts of e-procurement, sourcing and business negotiation is discussed in detail. The literature review systematically builds the conceptual framework of this thesis.

Chapter 3 explains how actor-network theory has been used as a lens to analyse the data collected for this thesis.

Chapter 4 discusses the philosophy that is applicable to this research, specifically exploring negotiation in the sourcing process between partners in e-procurement networks. This chapter explains the research design, including the data collection and data analysis strategies. Finally, this chapter explains issues of validity and reliability in this thesis.
Chapters 5 and 6 present the findings of the two case studies of public sector organisations from both the procurer and supplier perspectives, including the results of the analysis process. These two chapters report on the use of negotiation in the sourcing process in e-procurement at two Australian universities, particularly focusing on the social issues that influence the negotiations in the e-procurement. As discussed in this chapter, ANT was used as a sensitising device to explore the phenomenon of negotiation as part of the sourcing process in this e-procurement environment.

Chapters 7 and 8 present the findings of the two case studies of private sector organisations from both the procurer and supplier perspectives, including the results of the analysis process. Chapter 7 reports on the negotiations in the sourcing process in e-procurement at an Aviation Company and Chapter 8 reports on the negotiations in the sourcing process in e-procurement at a car manufacturing company. The main focus in these reports is the social issues influencing the negotiation in e-procurement. In this part of the study, actor-network theory is again used as a sensitising device to explore the phenomenon of negotiation as part of the sourcing process in the e-procurement environment.

Chapter 9 presents a cross-case analysis and discussion from the four case studies of the public and private sector agencies in Australia. The comparative analysis identifies points of similarity and difference in the identified social issues derived in the four cases. The e-procurement systems used to negotiate between the partners are compared. The discussion compares the impact of the social issues on negotiations in e-procurement in the public and private sectors with the findings in the literature in order to validate the findings of this thesis.

Chapter 10 concludes the results of the research, aligning these results with the research questions and highlighting their contributions to knowledge. This chapter also describes the limitations, and proposes directions for future research.
Chapter 2 – Literature Review

2.1 Introduction

This chapter provides an overview of the literature pertaining to the negotiation process utilised in sourcing, as part of e-procurement. The analysis of the literature starts with the exploration of procurement as a business process transitioning from traditional procurement to electronic procurement. The purpose of explaining the procurement process is to provide an overview regarding the role of negotiation as a part of the procurement process, and of the significance of sourcing in the procurement process. An explanation of sourcing, as an essential part of e-procurement, is provided to help better understand the significance of strategic sourcing as part of the procurement process. An explanation of the negotiation process is also provided. The purpose of explaining the negotiation process is to provide an overview of the significance of negotiation as part of strategic sourcing in the procurement process. Another purpose of this explanation is to provide an overview of the issues surrounding negotiation in the e-procurement environment.

Through the review of the literature, the gaps in the literature will be highlighted in order to assist the development of the conceptual framework needed to detect the social issues that influence the negotiation process utilised in sourcing, as part of the e-procurement environment. This field of study has not been widely addressed in the literature. However, the social issues that influence the negotiation process utilised in traditional procurement have been widely discussed. Considering the apparent shift from traditional procurement to an electronic procurement environment, there is a need to expand this knowledge by specifically exploring the social issues that influence the negotiation process in the e-procurement environment. This will help answer the main research question: How does negotiation operate in the sourcing process between partners in an e-procurement network?
2.2 Traditional Procurement

The terms “purchasing” and “procurement” are often used interchangeably within discussions about the buying activities of companies (Russel and Thukral 2003). Russel and Thukral (2003) defined procurement as the application of the transactional function of buying products and services at the lowest possible price. This process involves the material management of goods and services, in addition to the management of purchasing transactions. However, Bodnar and Hopwood (2004, p. 277) defined procurement as “the business process of selecting a source, ordering and acquiring goods and services”. Bodnar and Hopwood (2004) highlighted the general steps of the procurement process as including requirement determination, source selection, request for quotation, selection of vendors, issuance of a purchase order, receipt of the goods, invoice verification and vendor payment. Drawing on Bodnar and Hopwood, each of these steps is further discussed below.

Requirement determination

Requirement determination is the procurement process that involves requesting goods or services that are required by users within the purchasing organisation. Normally, a purchase requisition is an internal document that is created to request the procurement of goods and services, in order to ensure the availability of products at a certain point in time. The purchase requisition needs to be approved by the purchasing manager or someone of an equivalent position, and the purchase requisition must be within the cost limits established by the purchasing manager.

Source selection

Source selection is the process of assigning a source of supply to the purchase requisition. This procurement process is designed to verify the source in regard to whether a contract exists with a supplier to supply the product that is requisitioned. If a contract exists, then the appropriate purchase amount request will be proposed. If no contract exists, then a
request for quotation (RFQ) document is prepared to request products from the chosen supplier.

Request for quotation
The request for quotation is sent to the chosen suppliers. Normally, the request for quotation is prepared for high-cost items or services such as raw materials, for which bids are required as a matter of company policy. The request for quotation and the purchase requisition usually contains the same data; the difference between the two being that the request for quotation specifies both the closing dates for the application and the bid submission guidelines.

Selection of vendor
The qualified supplier is chosen based on the criteria listed by the buyer. Many criteria need to be considered when selecting the right supplier, including the delivery record of past orders, level of service, and the price and quality of the products.

Issuance of purchase order
A purchase order is a document that is prepared in order to confirm the goods ordered, including their quantity, price, delivery date, terms of delivery and terms of payment. By issuing a purchase order to a supplier, an agreement is made to conduct business by both parties, that is, the purchaser and the supplier. A contract is then created. The contract outlines the agreement in which a supplier undertakes to provide material within a certain period of time.

Receipt of goods
The goods receipt is prepared when the supplier makes the pre-arranged delivery. The delivered goods can also be from an in-house source, while they can also be transferred or moved from one location to another.
Invoice verification
Invoice verification is the process used to verify that the delivered goods concur with the goods requested by the purchaser prior to payment. This invoice verification ensures that the required costs and quantity requirements have been fulfilled.

Vendor payment
The final stage in the procurement process is the payment made to the supplier according to the payment terms and conditions specified in the purchase order. Payment is only made when the invoice verification is approved.

According to Presutti (2003), the procurement process should include the assessment of user satisfaction and supplier performance. This is to ensure the goods or services provided arrived on schedule and met the user’s needs. Further explanation of traditional procurement was given by Caridi et al. (2004) who stated that the purchasing process can include strategic buying, transactional buying and spot buying. The main objective of strategic buying is to establish long-term relationships between customers and suppliers, which requires careful supplier selection and long-term agreement in regard to supply management. Transactional buying implies repetitive purchasing from the same supplier based on yearly blanket orders or outlined agreements. Spot buying refers to a response to a situation where urgent requests suddenly arise, and all pre-qualified suppliers are not capable of fulfilling them. This is also referred to as maverick purchasing (Turban et al. 2008).

The definition of procurement outlined above is broad in its approach. Van Wheel (2000) presented the purchasing process model by including the broad scope of the purchasing process as part of the procurement process. This model is shown in Figure 2.1.
As identified in the procurement process outlined by Van Wheel (2000) as displayed above, the purchasing function becomes part of the procurement process. Likewise, Gabeur and Segev (1998) stated that procurement is a process that is concerned with all the activities involved in obtaining materials and services, and managing their inflow into an organisation towards the end-user. Based on the process of acquiring goods, procurement activities are often divided into direct procurement and indirect procurement (Segev and Gebauer 2001). The characteristics of the two activities are presented in Table 2.1.
Table 2.1: Comparison of direct procurement and indirect procurement (Gebauer and Segev 2001)

<table>
<thead>
<tr>
<th>Type of feature</th>
<th>Direct procurement of materials</th>
<th>Indirect procurement of materials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Raw material and production goods</td>
<td>Maintenance, repair and operating supplies</td>
</tr>
<tr>
<td>Quantity</td>
<td>Large</td>
<td>Low</td>
</tr>
<tr>
<td>Frequency</td>
<td>High</td>
<td>Relatively high</td>
</tr>
<tr>
<td>Value</td>
<td>Industry specific</td>
<td>Low</td>
</tr>
<tr>
<td>Nature</td>
<td>Operational</td>
<td>Clerical</td>
</tr>
</tbody>
</table>

As identified in the table above, there are two types of goods purchased in a market: direct material and indirect materials. Direct materials include those that are purchased to be used as part of the construction of a good (Gebauer and Segev 2001). An example of such a material is steel used by the construction industry. Indirect materials consist of goods and services that are used to assist in the construction of a product (Gebauer and Segev 2001). Examples of indirect materials include computer equipment and software, magazines and books, maintenance equipment, repairs and operation equipment, office equipment and supplies such as paper for the photocopier or printer. Examples of services include advertising, consultancy, travel and utilities, and health benefit plans.

As a basis of the procurement model developed by Van Wheel (2000), further research has been conducted in order to explore the concept of procurement as a business strategy, which led to the development of another model for procurement as shown in Figure 2.2. The new model is explained as an extension of the procurement process, in the way that it becomes part of a business strategy. This revised procurement process is divided into two parts: strategic procurement and operational procurement.
Strategic procurement focuses more on the issues that relate to managing the suppliers and dealing with contracts. Purchasing managers need to spend more time and effort on upstream procurement activities such as qualifying suppliers, negotiating prices and terms, building rapport with strategic suppliers and carrying out supplier evaluation and certification (Matthews 2005). As such, procurement is a core activity in a business. Approximately 80 percent of an organisation’s purchase items, mostly maintenance, repairs and operation (MRO) equipment (such as office supplies), constitute between 20 to 25 percent of the organisation’s total purchase value (Turban et al. 2008). The figure indicates that in a profit environment, assuming a 20 percent gross margin, every dollar saved in procurement costs will render a five dollar saving, and therefore an increase in revenue (Hawking and Stein 2003).

The traditional procurement system requires employees to coordinate vast amounts of paperwork. This paperwork can include purchase orders, supplier acknowledgments, shipping and receiving documents, invoices and accounts payable vouchers, supplier payments and account reconciliation reports. The flow of this information is presented in Figure 2.3.

![Figure 2.3: Traditional purchasing process flow (Turban et al. 2008)]
The typical cycle time for traditional procurement is five and a half days (Chaffey 2004). The process flow analysis for the traditional paper-based procurement process is represented in Table 2.2.

Table 2.2: Process flow analysis for traditional procurement (Adopted from Chaffey (2004))

<table>
<thead>
<tr>
<th>Task description</th>
<th>Flow process</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search for goods</td>
<td>Process</td>
<td>1 hour</td>
</tr>
<tr>
<td>Fill in paper requisition</td>
<td>Process</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Send to buyer</td>
<td>Transport</td>
<td>1 day</td>
</tr>
<tr>
<td>In buyer’s in-tray</td>
<td>Delay</td>
<td>½ day</td>
</tr>
<tr>
<td>Buyer enters order number</td>
<td>Process</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Buyer authorises order</td>
<td>Process</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Buyer prints order</td>
<td>Process</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Order copies to supplier, and goods delivered</td>
<td>Transport</td>
<td>1 day</td>
</tr>
<tr>
<td>Delivery from supplier</td>
<td>Inbounds goods</td>
<td>1 day</td>
</tr>
<tr>
<td>Order copy to accounts</td>
<td>Transport</td>
<td>1 day</td>
</tr>
<tr>
<td>3-way invoice match (purchase order, invoice and receipts)</td>
<td>Process</td>
<td>1 day</td>
</tr>
<tr>
<td>Cheque payment</td>
<td>Process</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

The organisational procurement process has remained similar for decades and most of the corporate buyer’s time is spent on non-value-added activities such as data entry, correcting errors in paperwork, expediting delivery, and solving quality problems (Turban et al. 2008). Traditional procurement involves many paper-based processes (Chaffey, 2004; Mitchell, 2000). Selamat et al. (2007) stated that there are several weaknesses inherent in traditional procurement, including too much paperwork, repetitive orders, a need to manage many suppliers, less cooperation between users and procurement, tendencies to handle jobs with emergency processes, too many level approvals required, long processing times and potential collusion. Maverick purchasing is another result of traditional procurement inefficiencies (Turban et al. 2008). A maverick purchase involves the unplanned purchases of items which are needed quickly, and are therefore bought from non-approved vendors at higher prices (Turban et al. 2008). Another inefficiency of traditional procurement relates to tendering and
negotiation, an inefficiency which frequently causes distrust, poor quality of products, and poor service (Cannon 2003).

Due to these problems, organisations have realised that the procurement process should be considered not only a stage in the transactional process, but also an element of a business’s strategy (Matthews 2005). Therefore, organisations should explore new ways of purchasing goods and services. One important new way of procuring goods and services is through e-procurement (Davila et al. 2003; Neef 2001; Quesada et al. 2010; Turban et al. 2008)

2.3 E-Procurement

Traditionally, procurement has involved a number of communication mediums designed to facilitate the procurement process between various parties including buyers and suppliers (Turban et al. 2008). Communication mediums have included mail, phone, fax, electronic data interchange (EDI) and more recently, email and the Internet (Tatsis et al. 2007). There has been an era of technology that has evolved with the concept of procurement. From the early 1980s, EDI has been used to automate routine transactions between established trading partners, especially for the trade of direct goods and services (Weber 2001). In the early 1990s, Web-based technology evolved to assist in the procuring of goods and services (Oliviera and Amorin 2001). Most organisations use Web-based technology because it can integrate an organisation’s systems internally and externally in regard to procuring goods and services (Roche 2001; Talluri et al. 2006; Versendaal and Brinkkemper 2003). The use of such mediums has transformed the traditional procurement process to one that now uses electronic means to communicate and collaborate, giving rise to the term “e-procurement”. E-procurement has evolved into the use of electronic technologies to streamline and enhance the procurement activities of an organisation (Hawking and Stein 2004).
Electronic procurement is an advanced business process used by organisations to procure goods and services. E-procurement has been defined in a number of ways. Table 2.3 represents various definitions of e-procurement, and outlines the similarities and differences between these definitions.
### Table 2.3: Definitions of e-procurement from different sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Definition</th>
<th>Electronic tool/Web-based technology</th>
<th>Operational procurement process</th>
<th>Strategic procurement management</th>
<th>Supply chain integration</th>
<th>Procurement automation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen Group (2001)</td>
<td>E-procurement is the creation of private, Web-based procurement markets that automate communications, transactions and collaboration between supply chain partners. It is about enhancing collaboration, streamlining processes, controlling costs, and enhancing information exchange within and across organisational boundaries.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Alanis and Roberts (1999)</td>
<td>E-procurement refers to the Internet solutions that help facilitate corporate purchasing.</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Chaffey (2004)</td>
<td>E-procurement should be directed at improving performance for each of the five 'rights' of purchasing, namely, the ability to purchase items at the right price, and the assurance that they will be delivered at the right time, delivered in the right quality, delivered in the right quantity, and that they will be purchased from the right source.</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Croom and Jones (2007)</td>
<td>E-procurement is the use of integrated (commonly Web-based) communication systems for the conduct of part of or all of the purchasing process. These communication systems may be incorporated in stages ranging from the initial needs identification by users, through to searching, sourcing, negotiation, ordering, and receipt and post-purchase procedures.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Kameshwaran et al. (2007)</td>
<td>E-procurement is an Internet-based business process for obtaining materials and services, and managing their inflow into organisations.</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Minahan (2001)</td>
<td>E-procurement is the process of utilising Web-based technologies to support the identification, evaluation, negotiation and configuration of optimal groupings of trading partners into supply chain networks, which can then meet demands with greater efficiency.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Mitchell (2000)</td>
<td>E-procurement is the process of electronically purchasing the goods and services needed for an organisation’s operation. This process offers a real-time platform for conducting business while providing a significant opportunity to cut costs, increase organisational effectiveness and improve customer service.</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 2.3: Definitions of e-procurement from different sources (continued)

<table>
<thead>
<tr>
<th>Source</th>
<th>Definition</th>
<th>Electronic tool /Web-based Technology</th>
<th>Operational procurement process</th>
<th>Strategic procurement management</th>
<th>Supply chain integration</th>
<th>Procurement automation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moon (2003)</td>
<td>E-procurement is a comprehensive process in which governments use IT systems to establish agreements for the acquisition of products and services (contracting) or to purchase products or services in exchange for payment (purchasing). It employs various elements including electronic ordering, Internet bidding, purchasing cards, reverse auctions and integrated automatic systems.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Oliver and Amorim (2001)</td>
<td>E-procurement is the process of electronically purchasing the goods and services needed for an organisation’s operations.</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Tatsis et al. (2006)</td>
<td>E-procurement is the integration, management, automation, optimisation and enablement of an organisation’s procurement process, using electronic tools and technologies, and Web-based applications.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

As can be seen from the definitions presented in the table above, the concept of e-procurement as a purchasing process to buy goods and services via electronic means, particularly through the use of Web-based applications (the Internet, email) has been widely discussed in the literature. The concept has been explored and explained by authors including Tatsis et al. (2007), Olivera and Amorim (2001), Moon (2003), Croom and Jones (2007), Minahan (2001), Aberdeen Group (2001) and Alanis and Roberts (1999). As highlighted in the definitions, the use of e-procurement offers organisations an opportunity to increase organisational effectiveness and efficiency in the procurement process, and to cut costs (Mitchell 2000; Attaran 2001; Kalakota and Robinson 1999; Hu et al. 2007). Prier and McCue (2007) claimed that e-procurement can support operational and strategic procurement activities. As such, activities have the potential to make the identification of suppliers and negotiation with suppliers more efficient (Carter 2001).
Mindila (2008) argued that e-procurement is an enabler of smart management. E-procurement systems can automate workflows, consolidate or leverage organisational spending power, and can identify new sourcing opportunities through the Internet (Davila et al. 2003; Reddick 2004). Furthermore, such a system can help in the searching, order processing, monitoring, and controlling and coordinating of procurement activities (Subramaniam and Shaw 2004).

E-procurement activities include advertising tenders, submitting tenders electronically, electronic ordering, Internet sourcing via third parties, email communications between buyers and sellers, email communications related to contract management, and the integration of procurement within financial and inventory systems. In particular, e-procurement can facilitate the following three key processes involved in procurement (Chan et al. 2003):

- Information retrieval – whereby prospective buyers identify their own needs, and they evaluate the abilities of potential sources to fulfil these needs. They gather information about market conditions, products and sellers.
- Negotiation – whereby individual business partners start to interact with each other and determine the prices and availability of goods and services, as well as delivery terms. Successful negotiations are usually finalised with a contract.
- Settlement – whereby the terms of the contract are carried out and goods and services are transferred in exchange for money or other forms of compensation.

E-procurement fundamentally supports the way organisations conduct traditional procurement activities by automating and simplifying many business processes and transactions. These include processes and transactions such as supplier selection (Choi and Chang 2006), contract negotiation (Bichler et al. 2001), price bidding (Rgahavan and Prabhu 2004; Stein and Hawking 2003), and supplier relations from the operational level to the strategic level (Ho et al. 2008). In four case studies conducted in different industries by Bartezzaghi and Ronchi (2003), it was found that Internet adoption supported the procurement process as part of the customer-supplier relationship.
E-procurement is a powerful business tool that enables almost all of the purchasing processes to be undertaken via the Internet (Kheng and Al-Hawamdeh 2002). However, the concept of e-procurement goes beyond procurement as just a purchasing process and can be extended across the entire supply chain. As stated by the Aberdeen Group (2001), e-procurement can enhance collaboration between supply chain partners. E-procurement is about enhancing collaboration, streamlining business processes, controlling costs and enhancing information exchange within and across an organisation’s boundaries. Minahan (2001) pointed out that e-procurement is the process of utilising Web-based technologies to support the identification, evaluation, negotiation and configuration of optimal groupings of trading partners into a supply chain network. Presutti (2003) claimed that the e-procurement process ultimately helps supply managers to evaluate and rate supplier performance efficiently.

Although there are differences among the e-procurement definitions in regard to the scope and detail, it is clear that they refer to the use of electronic technologies to support procurement functions. From the definitions, it can be determined that an e-procurement system serves as an enabler for all stages of the purchasing process, from selecting a source to ordering and acquiring goods and services via electronic means.

Drawing on the various concepts used to explain e-procurement from different perspectives, e-procurement for the purposes of this study is defined as the use of electronic tools and technologies, and Web-based applications, to support the procurement process conducted by the strategic procurement management. The procurement process includes sourcing, negotiating and collaborating with trading partners in order to undertake operational procurement procedures. These include ordering and receiving products, and procuring goods and services that will enhance the supply chain network.

It is useful to note, as Puschman and Alt (2005) explain, that most companies utilise e-procurement solutions in multiple ways. In regard to integrated e-procurement solutions, there is a need for an overall procurement strategy and organisational alignment of the various e-procurement solutions utilised in the procurement process as well as a need for
integrated system architectures (Puschman and Alt 2005). In addition, various e-procurement strategies need to be incorporated in a company’s procurement process, with an understanding of each strategy’s particular strengths (Riggs and Robbins 1998; Dolmetsch et al. 2000). Usually, these strategies are complementary and support different parts of a company’s procurement process. This process is shown in Figure 2.4.

Figure 2.4: Supply chain process and e-procurement strategies (Puschman and Alt 2005)

Figure 2.4 represents the procurement process and its e-procurement solution. The procurement process includes two stages: the strategic procurement process, and the operative procurement process. For the strategic procurement process, e-market or e-request for quotation (e-RFQ) and auctions, such as e-auction or e-reverse auction are the appropriate e-procurement solutions to use for procurement (Puschman and Alt 2005). Intranet catalogue and enterprise resource planning (ERP) systems are suitable e-procurement solutions for operational procurement processes such as payments made for procuring goods and services (Puschman and Alt 2005). E-procurement is a process that
helps to expedite the procurement process in procuring goods and services. E-procurement tools can be used to assist the procuring organisation to expedite the procurement process undertaken with the use of e-procurement. The next section discusses the e-procurement tools used in procurement.

2.4 E-Procurement Tools

E-procurement does not define a single application (Knudsen 2003). Rather, e-procurement consists of many different tools. De Boer et al. (2002) identified six forms of e-procurement, namely: e-sourcing, e-reverse auctioning, e-tendering, e-informing, e-MRO and Web-based ERP systems. In addition, other forms of e-procurement have been identified. These include e-catalogues (Baron et al. 2000), e-purchasing (OGC 2005) and e-negotiation (Raghavan and Prabhu 2004). All of these forms of e-procurement are used by organisations in both the public and private sectors (Futo 2001), and, as noted above, most companies operate multiple e-procurement solutions (Puschman and Alt 2005). Each form of e-procurement can be described as follows:

- E-sourcing refers to the process of identifying potential new suppliers for a specific category of purchasing requirements (Klassen and Johnson 2005);
- E-reverse auctioning is an Internet technology that enables purchasing companies to buy goods and services that either have the lowest price, or a combination of the lowest price and other conditions (De Boer et al. 2002; Carter et al. 2004);
- E-tendering concerns the process of sending requests for information and prices to suppliers, and receiving responses from suppliers using Internet technologies (De Boer et al 2002);
- E-informing is the process of gathering and distributing purchasing information both from and to internal and external parties (De Boer et al 2002);
- E-MRO and Web-based ERP refers to the process of creating and approving purchasing requisitions, thereby replacing the traditional approach of utilising purchase orders and receiving goods and services with a software system based on Internet technologies (De Boer et al. 2002);
E-cataloguing refers to the electronic presentation of information regarding the products and services of an organisation (Baron et al. 2000);

E-purchasing refers to a series of tools used to help procurement professionals and end-users undertake more efficient processes, and receive more accurate order details. The tools include purchase-to-pay systems, purchasing cards and invoicing solutions (OGC 2005);

E-negotiation refers to a mechanism that allows for a recursive interaction between a buyer and supplier, thereby allowing the resolution of a good deal (Raghavan and Prabhu 2004).

All the e-procurement tools described above are used by procuring organisations for procurement processes. However, in regard to e-procurement tools, Davila et al. (2003) identified four major e-procurement Internet-based information and communication technology requirements. Firstly, e-procurement software should refer to any Internet-based software application that enables employees to purchase goods from approved electronic catalogues in accordance with the company’s buying rules. Secondly, e-procurement systems should refer to Internet market exchanges that bring together multiple buyers and sellers in one central virtual market space, and enable them to buy or sell from each other at a dynamic price. Thirdly, e-procurement systems should refer to Internet B2B auctions in which multiple buyers place bids to acquire goods and services via an Internet site. Fourthly, e-procurement systems should refer to an Internet purchasing consortia that gathers together the purchasing power of many buyers, thereby allowing the more aggressive negotiation of discounts.

Turban et al. (2008) identified that companies implemented e-procurement methods such as the aggregated catalogues of all approved suppliers combined into a single internal electronic catalogue. Such a catalogue allows direct purchasing from internal marketplaces without the approval of supervisors and without the intervention of a procurement department, as well as the aggregation of orders from several buyers into volume purchases, so that better prices can be negotiated. With the use of e-procurement
tools in procuring goods and services, companies can gain many benefits (Attaran and Attaran 2001). Based on the empirical work by Gunasekaran and Ngai (2007), one of the reasons for organisations to implement an e-procurement system is the perceived benefits. It is therefore important that organisations understand what these benefits are. By knowing the benefits that can be attained from e-procurement, organisations can save billions of dollars annually (Mindila 2008). The following section discusses the benefits of e-procurement.

2.5 Benefits of E-Procurement

There are many potential benefits that can be obtained by organisations in both the private and public sectors through the implementation of e-procurement. The benefits of e-procurement have been widely identified in the supply chain management (SCM) and e-procurement literature (Aberdeen Group 2006; Neef 2001; Attaran and Attaran 2001). Major e-procurement benefits can include cost savings where, according to Bartezzaghi and Ronchi (2005), buyers report an average reduction in purchase price of 17%. Furthermore, Barratt and Roshdal (2002) claim that the Internet actually reduces maverick buying (unplanned purchases). Other benefits of e-procurement, as identified by Min and Galle (2001), include an increase in the return on investment, and the utilisation of just-in-time inventories. Another benefit of e-procurement, also stated by Min and Galle (2001), is the enhancement of supply chain efficiency by providing real-time data regarding product availability, inventory levels, shipment status and production requirements, and by facilitating collaborative planning amongst supply chain partners by allowing for the sharing of demand forecast data.

According to a report by the Aberdeen Group (2006), the Rolls Royce company implemented an e-procurement approach and identified one of the benefits as the additional control it offered over spending. One such form of control over spending is the ability to include the control of pricing levels through the use of efficient processes and the reduction of waste. A study by Subramaniam and Shaw (2004) showed that the
use of B2B e-procurement is beneficial for unstructured procurement, such as the purchase of office furniture, due to its expediting of the ordering process. Furthermore, e-procurement processes can provide opportunities to make procurement for goods and services more transparent and efficient (Carayannis and Popescu 2005). Dell Computing reported savings of up to US$50 million, and a reduction of suppliers by 50%, after the company began to use e-procurement (Attaran and Attaran 2001). Mercedes Benz, in its Spain operations, reported savings of up to US$30 million and a reduction of suppliers by 65% after its adoption of e-procurement (Attaran and Attaran 2001). Emerson likewise reported savings of US$30 million, while American West Airlines and the Eastman Kodak Corporation reported price breaks of 40% and 20%, respectively (Attaran and Attaran 2001).

By implementing e-procurement while procuring goods and services for either production or non-production needs, companies can gain substantial benefits. Several potential benefits associated with the use of e-procurement have been discovered by organisations, and can be characterised into different fields including operational and strategic benefits (Croom 2000), efficiency and effectiveness benefits (Kothari et al. 2007) and transactional, compliance, price and management information benefits (Eakin 2002). Some of the benefits recognised through the use of e-procurement technologies include a 73 percent reduction in transaction costs, a 70 to 80 percent reduction in purchase order processing cycles, and a five to ten percent reduction in prices paid (Attaran and Attaran 2001). For instance, IBM has realised indirect cost enhancements by implementing e-procurement. These indirect cost enhancements have included an improvement in on-time shipments from 90 to 98 percent, and a shortening of delivery cycle time by 55 percent, an improvement of inventory turn by 44 percent, and a shortening of the demand and supply planning cycle from 60 to 20 days (IBM 2002).

The public sector e-procurement process has similarities with the private sector process in terms of its focus on value, competitiveness and accountability (Hardy and Williams 2007). For example, the Republic of Latvia predicted that e-procurement systems, including e-auction solutions, would save at least US$320,551 and create a turnover of
approximately US$7,693,000 each year from 2007 onwards. Denmark reported that the benefits derived from the implementation of e-procurement at the state, county and municipality levels resulted in a freeing-up of resources by approximately 40%, 65% and 30% respectively (Henriksen et al. 2004). Table 2.4 presents a summary of the key benefits that e-procurement can offer to an organisation.

Table 2.4: Operational and strategic benefits of using e-procurement

<table>
<thead>
<tr>
<th>Operational Benefits</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Cost**             | • Reduced administrative costs of the procurement process (Croom 2000)  
                        • Reduced transaction costs (Frohlich 2002; Neef 2001; Eakin 2002)  
                        • Decreased costs of purchased goods and services (Ramfos and Fitsilis 2007)  
                        • Cost reduction lowering printing and mailing costs (Randall and Wyld 2003)  
                        • Transaction cost savings (Henriksen and Mahnke 2005)  
                        • Reduced search and monitoring costs (Kothari, Hu et al. 2007) |
| **Delivery time**    | • Faster delivery time (Frohlich 2002)  
                        • Faster cycle times (Boyer and Olson 2002)  
                        • Faster ordering time (Neef 2001)  
                        • Faster processing time (Randall and Wyld 2002) |
| **Paperwork**        | • Less paperwork (Neef 2001; Ramfos and Fitsilis 2007; Attaran and Attaran 2001) |
| **Errors**           | • Fewer errors (Randall and Wyld 2003; Eakin 2002)  
                        • Fewer repetitive administrative tasks (Neef 2001) |
| **Maverick buying**  | • Less maverick purchasing (Neef 2001)  
                        • Increased compliance (Eakin 2002) |
| **Efficiency**       | • Faster tender processing (Ramfos and Fitsilis 2007)  
                        • Transactional automation of processes (Eakin 2002)  
                        • Open access to tendering information (Ramfos and Fitsilis 2007)  
                        • Improved availability of payment (Eakin 2002)  
                        • Enhanced transparency (Bartzengghi and Rochhi 2003)  
                        • Improved auditing of each transaction throughout process (Croom 2000) |
| **Inventory level**  | • Reduced inventory level (Attaran and Attaran 2002)  
                        • Improved availability of stock (Eakin 2002) |
<table>
<thead>
<tr>
<th>Strategic Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier</td>
</tr>
<tr>
<td>• Wider vendor choice (Neef 2001)</td>
</tr>
<tr>
<td>• Attraction of new suppliers (Randall and Wyld 2003)</td>
</tr>
<tr>
<td>• Enhanced control over the supply chain (Henriksen and Mahnke 2005)</td>
</tr>
<tr>
<td>• Better service for suppliers (Attaran and Attaran 2002)</td>
</tr>
<tr>
<td>Enhanced decision-making process</td>
</tr>
<tr>
<td>• More accessible Internet alternatives for buyers (Neef 2001)</td>
</tr>
<tr>
<td>• Higher quality purchasing decisions (Henriksen and Mahnke 2005)</td>
</tr>
<tr>
<td>• Faster response to highly competitive new market entrants (Attaran and Attaran 2002)</td>
</tr>
<tr>
<td>• Consolidating purchasing practices that lead to greater discounts (Attaran and Attaran 2002)</td>
</tr>
<tr>
<td>• Better organised reporting of information (Boyer and Olson 2002)</td>
</tr>
<tr>
<td>• Tighter integration of procurement functions with key back office systems (Boyer and Olson 2002)</td>
</tr>
<tr>
<td>• Enhanced financial management (Ramflos and Fitsilis 2007)</td>
</tr>
<tr>
<td>• Organisational change and reformation (Randall and Wyld 2003)</td>
</tr>
<tr>
<td>Inventory control</td>
</tr>
<tr>
<td>• Improved inventory accuracy (Boyer and Olson 2002)</td>
</tr>
<tr>
<td>• Enhanced inventory turnover (Frohlich 2002; Randall and Wyld 2003)</td>
</tr>
<tr>
<td>Price</td>
</tr>
<tr>
<td>• Better price (Randall and Wyld 2003)</td>
</tr>
<tr>
<td>Process flow</td>
</tr>
<tr>
<td>• Reengineered procurement flows (Neef 2001)</td>
</tr>
</tbody>
</table>

Organisations that implement e-procurement solutions while procuring goods and services can gain all or a combination of the benefits described above. Organisations in both the public and private sectors can and do use e-procurement solutions, and the following section explains in more detail how e-procurement can be utilised in both sectors.

### 2.6 E-Procurement in the Public and Private Sectors

The potential for e-procurement solutions to improve profitability and operational effectiveness has become a motivation for members of the private sector to implement this approach (Stein and Hawking 2003). Likewise, the aims behind the use of e-procurement in the public sector have similarities to its use in the private sector, in regard to its focus on value, competitiveness and accountability (Hardy and Williams 2007). A
number of private sector e-procurement solutions such as e-marketplaces, desktop purchasing systems and tendering platforms have been employed by various public sector organisations (Barbeiri and Zanoni 2005; Croom and Jones 2007). Public sector agencies worldwide have identified e-procurement as one of the most important topics on the e-government agenda (Vaidya 2002; Yu et al. 2002). Neef (2001) stated that if there is one sector in the economy where e-procurement can and will have an enormous effect, it is in the government.

2.6.1 E-Procurement in the Public Sector

The public sector is the biggest single buyer in any country (Lindskog 2003). It purchases standard goods, complicated equipment, services ranging from office cleaning to management consulting, mobile phone services, medicines, civil engineering services, and so on. Public procurement is subject to a different and stricter jurisdiction than private procurement. The purpose of public procurement is to protect companies from unfair competition, while avoiding corruption and bribery, and often the result of this is that formal requirements become quite extensive and lengthy (Lindskog 2003). In many cases, private companies consider selling to the public sector to be more tedious, risky and costly than selling to other private companies.

The implementation of e-procurement in the public sector is more complicated than it appears (Coulthard and Castleman 2001). The complications in e-procurement in the public sector have been outlined by Pettijohn and Qiao (2000) as the imposition of too many rules and too little discretion, high transaction costs in regard to the procurement of information technology, and problems in regard to system specification. In addition, Smeltzer and Carr (2002) stated that if the reverse auction approach is to succeed, there is a need for the buying organisation to clearly state the commodity specification. Smeltzer and Carr (2002) also stated that the purchase must be large enough to provide an incentive for the supplier to participate in the auction, the appropriate supply market conditions must exist, and the organisational infrastructure must be in place. A public
procurement system has similar characteristics to private sector systems, due to the fact that the basic goal of procurement is to find sources of supply that can provide high-quality products at a potentially cheaper price (Croom 2003). Despite these similarities, public procurement differs from private procurement in the following respects:

- The public sector purchasing system administers the money that belongs ‘to all’, and the supply of goods must serve the public wealth (Panayiatou et al. 2004);
- There are prescribed procedures that result from a number of laws, directives, directions, and administrative or political judgements (Panayiatou et al. 2004);
- The variety and number of purchased products are greater for the public sector. The number of customers (government agencies) and suppliers in the government purchasing system is large (Panayiatou et al. 2004);
- The aim for the public sector is to increase top-level funding availability (Vaidya et al. 2002);
- The public sector is responsible for creating an open market in which every provider can compete (Vaidya et al. 2002).

For the above reasons, organisations in the public and private sectors will differ in regard to the procurement processes they utilise, particularly in terms of strategic sourcing (Rendon 2005). Strategic sourcing is one of the tactical approaches that has been widely used in the private sector to gain competitive advantage (Presutti 2003). However, the public sector needs to build a model that is ideal for its specific service objectives. The implementation of e-procurement can face many challenges, especially in the public sector, due to many constraints. These constraints can include technical problems, supplier resistance, and a lack of organisational requirements that do not allow for the exploitation of ICT opportunities (Bof and Previtali 2007; William and Hardy 2005; Eadie et al. 2007; Prier and McCue 2007).

Despite the constraints, switching from the traditional procurement process to an e-procurement process will reap benefits from operational to strategic standpoints. These benefits can include consolidating purchasing practices that will lead to greater discounts and better services for suppliers, faster responses to highly competitive new market
entrants, elimination of paperwork and its costs, and reduced inventory levels (Attaran and Attaran 2002). In order for the public sector to achieve these benefits, there must be a good understanding of the implementation of e-procurement and specifically strategic sourcing, as the use of e-procurement will shift the balance of power from the supplier to the buyer (Wyld 2001). The public sector, as a large sector that spends a large amount of money on procurement (OECD 2002), needs to be aware of the potential benefits to be gained as a result of the e-procurement implementation. E-procurement in the public sector is not only focusing on the benefits gain via the use of e-procurement system, however the sustainability of procurement and e-procurement becomes an essential element to be concerned with (Walker and Brammer 2012). Walker and Brammer (2012) found that e-procurement and communication with suppliers may help environmental, labour, health and safety aspects of sustainable procurement. Therefore, by implementing e-procurement, a public sector agency can run procurement processes smoothly, and can gain benefits from doing so.

### 2.6.2 E-Procurement in the Private Sector

The approach to implementing e-procurement varies greatly within the private sector. E-procurement approaches can be tailored for implementation in manufacturing companies (Sigala 2006), construction companies (Chao and Hua 2002), international financial institutions like the World Bank (Liepold et al. 2004), the automotive industry (Hoppen et al. 2002), the hotel industry (Kothari et al. 2005) and small and medium enterprises (SMEs) (Gunasekaran et al. 2009). A study of the ICT manufacturing industry in Ireland, conducted by Harrigan et al. (2008), found that in order for organisations to further integrate e-procurement they should develop a dual focus on technical and personnel issues. This dual focus would enhance a culture of staff development and continuous improvement.

E-procurement has also been used in the food service industry. A study on the use of e-procurement by food service operators in Greece found there were only a few firms who
had adopted e-procurement, and these firms were still in the early stages of using an e-procurement approach. The lack of e-procurement knowledge, skills and trust and the perception of risk have been found to be major inhibitors regarding the adoption of e-procurement approaches (Sigala 2006). Kothari et al. (2005) investigated the adoption of e-procurement in the hospitality industry by studying the purchasing departments of hotels in Philadelphia. They found that the main hurdle faced by attempts to adopt e-procurement technology was the need to convey to non-users the evidence that these technologies do not undermine control, security or privacy requirements. In addition, while working with e-procurement vendors, the hotels needed to carefully examine their supply contracts, inspect their own spending habits, understand what their suppliers can offer, and monitor the quality of the supplied products and services (Kothari et al. 2005). Tatsis et al. (2006) found that there were several impediments encountered during the implementation of e-procurement in the food and drink industry in Greece. These impediments included the traditional nature of the industry, the lack of infrastructure and resources by suppliers, the general satisfaction with existing procurement systems and uncertainty about the profitability of using e-procurement systems.

Gunasekaran et al. (2009) studied the adoption of e-procurement in SMEs on the South Coast of Massachusetts. They found the greatest barrier to e-procurement implementation was the lack of top management support. Another study conducted by Shakir et al. (2007) showed how Petroleum Development Oman, a large oil and gas exploration and production company, could electronically integrate its suppliers through e-procurement. This integration was especially relevant to the company’s SME suppliers. Shakir et al. found that in order for a large organisation to integrate with SME suppliers, it must first undertake a number of tasks, including: addressing such a supplier’s negative perceptions of competitive bidding; sharing the benefits of e-procurement with the suppliers; making the system simple, easily-accessible and familiar; and overcoming public infrastructure constraints by focusing on service and substituting one technology with another.
One study regarding e-procurement was conducted in 125 European companies in the automotive industry, including companies based in Germany, Austria, France, Scandinavia (Norway and Sweden), Benelux (The Netherlands and Belgium), the UK and Switzerland. The study found that the businesses with consistent e-business strategies could use e-procurement for directly obtaining goods and services more intensively than the companies without an e-business strategy (Hoppen et al. 2002). In the Rolls Royce company, e-procurement has been deployed across the entire enterprise, and is utilised in all processes ranging from requisition to automated invoicing and payment. The goal of this broad use is to remove all non-value adding purchasing activities associated with low-value, high-volume purchases (Aberdeen Group 2006).

Chao and Hua (2002) studied e-procurement in the Singaporean construction industry and determined that the industry’s “conservative” nature had resulted in its lack of adoption of IT applications. A study of the architectural, engineering and construction industry in Canada identified organisational and technical issues as the main barriers to the industry’s implementation of e-procurement (Rankin 2005). The biggest challenge relating to organisational issues involves shifting the mind-set of people wanting to stay with the existing system, and developing confidence in the use of new technologies (Rankin 2005). The biggest challenge associated with technical issues is the challenge related to finding affordable technical solutions and to overcoming concerns with the security of data transactions (Rankin 2005).

E-procurement has also been implemented by the World Bank Group (Leipold et al. 2004). Its e-procurement system is used for the selection of consultants, which is expected to enhance the consistency of this practice on a worldwide basis, to increase the associated transparency and competition, and to minimise time and effort (Leipold et al. 2004). Experience regarding the use of e-procurement solutions in the selection of consultants has confirmed that the successful design and implementation of any such solution depends not only on technology, but also on human components (Leipold et al. 2004).
Due to the differences in the public and private sectors when it comes to the procurement process, there is a need to explore the impact of strategic sourcing, especially in e-procurement environments, on suppliers and buyers. In addition, there is a lack of research on one-procurement, especially in the area of strategic sourcing from the perspective of the public and private sector agencies. Thus, this research explores the strategic sourcing approach to e-procurement in the public and private sectors.

### 2.7 Strategic Sourcing

Sourcing has been identified as an important component of the procurement process (Cerquides et al. 2007). As Zeng (2000) explained, one of the purchasing department’s major responsibilities is the sourcing, or selection, of suppliers. Sourcing is defined as a philosophy of selecting vendors in a manner that makes them an integral part of the buying organisation, due to the particular component or part that they are to supply (Zenz 1994). Bichler et al. (2001, p. 195) defined sourcing as a “disciplined process that involves several steps that organisations implement in order to efficiently purchase materials and services from suppliers. It addresses the critical decisions of what to buy, how to buy, whom to buy from and how to manage the relationship with the supplier”. By one estimate, between 50% and 70% of a manufacturing company’s potential value is in its purchased items, even for service industries. For these industries, half of their services are in fact purchased from other companies (Mihaly 1999).

Sislian and Satir (2000) revealed a need for an integrated sourcing framework that focuses on strategic perspectives, as opposed to cost-based or operational perspectives. Spekman et al. (1999) proposed a set of ten principles for effective sourcing and supplier management, namely: the integration of suppliers into the supply chain, the sharing of information, the development of trust, the use of effective organisation to achieve alignment, the use of commodity teams, the global search for advantage-global sourcing, the focus on total costs, the need to rationalise the supply base and to let suppliers
manage it, and the need to leverage technology. They also stated that high-performing organisations can handle their supply base as a valued source, through the means of their sourcing strategies. Spekman et al. (1999) further outlined that the organisations that have discovered leveraging procurement have mastered the configuration of strategy, systems or processes, and operations. Figure 2.5 represents this configuration

Figure 2.5: Key sourcing dimensions required for alignment (Spekman et al. 1999)

### 2.7.1 Types of Sourcing

In order to achieve effective sourcing, it is necessary to understand the different sourcing alternatives available, as sourcing plays an important role in a firm’s competitiveness and growth. In a study conducted by Tam et al. (2007), seven categories of production sourcing strategies were identified, namely: multiple sourcing, single sourcing, local sourcing, offshore sourcing, global sourcing, in sourcing, and out sourcing. In a similar vein, Zeng (2000) synthesised four categories of sourcing alternatives. These categories include single sourcing, multiple sourcing, dual hybrid sourcing and global sourcing. Each of these sourcing alternatives is explained as follows:
Multiple sourcing – Organisations have business connections with a certain number of suppliers, where each supplier acts in response to the demands and requirements of a particular quote from the buying organisation (Zeng 2000);

Single sourcing – Initiatives to reduce the number of suppliers with which an organisation does business, with the ultimate goal of sourcing from a single source (Zeng 2000);

Dual hybrid-network sourcing – A network sourcing system in which the supply network is constructed in a hierarchical pyramid with top tier suppliers. In this case, companies buy final products by relying on the skills and specialised knowledge of the hierarchical sub-contractors (Zeng 2000);

Local sourcing – Involves the organisational use of local suppliers (Tam et al 2007);

Offshore sourcing – The actions or operations engaged in creating a product overseas (Tam et al 2007);

Global sourcing – The integration and management of procurement conditions across a number of international business units (Tam et al 2007);

Insourcing – Organisations conducting tasks internally (Tam et al 2007); and

Outsourcing – The strategic perception from the outside resources used by companies (Tam et al 2007).

These sourcing alternatives will assist purchasing departments in making decisions regarding the suppliers they will utilise. Furthermore, the sourcing process will impact the buying firm’s internal operations (Zeng 2000). Zeng (2000) explained four ways in which sourcing can impact the buying firm’s internal operations:

- Sourcing may dictate the beginning of actual production runs, since the availability of raw materials and other purchased supplies is essential for the successful operation of the production facilities. In addition, the sourced materials have a direct impact on the final product’s price and quality in a manufacturing setting, as well as the service quality provided by non-manufacturing companies;
• Sourcing may represent a considerable amount of capital expense, as the selection process can be extremely lengthy, and may require inputs from the managers of various departments;

• The primary advantage of sourcing is increased flexibility in terms of the workforce, enhanced scheduling processes, and improved product price and quality, meaning that companies of every type are sourcing virtually all of their necessities externally, as opposed to internally; and

• Sourcing is a strategic decision when the buying firm attempts to establish a long-term relationship with its suppliers.

Choy et al. (2001) pointed out that due to the increase of strategic sourcing and competition in the global environment; new requirements regarding the role of suppliers in the supply chain are needed. This is due to supply performance having a direct financial and operational impact on businesses, through supplier selection and evaluation (Croom 2001). Therefore, sourcing ultimately becomes one of the strategic and critical elements required for a company’s growth. Strategic sourcing decisions are not, however, only concerned with the scope of operations such as price, quality and delivery. They also incorporate the strategic dimensions and capabilities of suppliers, with an emphasis on quality management practices, process capabilities, management practices, design and development capabilities and cost reduction capabilities in the decision-making process (Talluri and Narashiman 2004).

Anderson and Katz (1998) defined strategic sourcing as a set of interrelated business processes focusing on the items and methodologies associated with maximising the value of externally-procured goods and services. The definition of strategic sourcing, as further explained by Chan and Chin (2007), is a systematic and comprehensive process that adds value to a company. This in turn helps to achieve the company’s long-term objectives. Turban (2008, p.273) defined strategic sourcing as “the process of identifying opportunities, evaluating potential sources, negotiating contracts and managing supplier relationships to achieve corporate goals such as cost reductions and increase quality and services”. Smeltzer et al. (2003) found that all sourcing strategies emphasise the
integration of business practices such as early supplier involvement, supplier development, supplier assessment, and supplier certification and measurement. In addition, strategic sourcing requires a holistic process that automates the entire sourcing process. This process includes order planning, RFQ creation, bid evaluation, negotiation, settlement and order execution (Turban et al. 2008).

Strategic sourcing is critical for a firm practising supply chain management, as it involves managing the supply base in an effective manner by identifying and selecting suppliers (Talluri and Narashiman 2004). Supplier selection and evaluation is increasingly seen as a strategic issue for companies (Araz and Ozkarahan 2007). In a study regarding supplier selection by Petroni and Braglia (2000), vendor selection was found to involve two basic but distinct tasks: evaluation and choice. The evaluation element typically consists of identifying the attributes, criteria or factors relevant to the decision at hand, and then measuring or rating each supplier by a set of relevant factors. These factors can include product price, shipment quality, and delivery compliance (Petroni and Braglia 2000). Further supplier evaluation criteria are required as a result of the increase in strategic sourcing, and competition within the global environment (Choy et al. 2005).

Araz and Ozkarahan (2007) found that supplier selection and evaluation is no longer an important function for companies. However, collaborating with the right suppliers and managing them is becoming more important, as strategic partnerships are now being implemented with suppliers. Sheffi (2008) highlighted that the development of strategic sourcing is part of the sourcing process. According to Puschan and Alt (2005), the steps involved in the sourcing process range beyond just supplier selection. These steps include product specification, procurement planning, supplier selection, request for quotation, assessment of quotations and finally the negotiation process. Aguiler et al. (2007) claimed that the sourcing process for multiple goods or services usually involves complex negotiations that include discussion of a product’s features, as well as matters related to quality, services and availability issues. Likewise, Glassberg et al. (2008) stated that a cornerstone of improved procurement performance is strategic sourcing. 
The mission of strategic sourcing is to maximise the value of suppliers and minimise the total cost of ownership of materials and services (Glassberg et al. 2008). Strategic sourcing can have a profound impact on a company’s finances, and can strongly influence the purchasing and procurement process (Yen and Ng 2003).

Moro et al. (2003) claimed that one of the most important parts of an individual sourcing process is the negotiation phase. This is because strategic sourcing must be completed and then integrated into the negotiation plan (Smeltzer et al. 2003). In order to ensure that the negotiation process can be achieved, managerial teams such as sourcing teams, supply managers and purchasing managers need to understand the importance of all the steps involved, allowing them to fully integrate the results from sourcing into the negotiation process (Smeltzer et al. 2003). Smeltzer et al. (2003) claimed that the negotiation process and the strategic sourcing process are interrelated. The next section explains one of electronic tools utilised for sourcing, namely, e-sourcing.

2.7.2 E-Sourcing

Today, the Internet has proven to be a highly effective tool for sourcing (Wyld and Setton 2003). Correspondingly it has been integrated into the sourcing process. Zeng and Pathack (2003) and Soliman and Youssef (2003) stated that e-sourcing is one of the e-procurement tools that can help to support the sourcing process involved in procurement. E-sourcing is defined as “the process and tools that electronically enable any activity in the sourcing process, such as quotation/tender submittance and response, e-auctions, online negotiations and spending analyses” (Turban et al. 2008, p.237). E-sourcing is one of the elements in e-procurement that includes forward and reverse electronic auctions and online bidding and tendering, which are also referred to as electronic requests for quotations or proposals (Klassen and Johnson 2005).

In a supply chain, e-sourcing has become increasingly important for buying organisations (Lancioni et al. 2003). E-sourcing can help buying organisations to choose potential
suppliers in order to conduct business. Amelick et al. (2008) identified six processes in e-sourcing: the provision of information about the firm, market conditions and trends for spending analyses and opportunity assessment; configuration, by defining the buyer’s need to develop specifications; supplier search, by finding potential suppliers; supplier authentication, by assuring the identity and quality of the supplier; product authentication, by assuring the identity and quality of products; and valuation, which involves the process of price discovery, negotiation and contract award.

Shin and Yun (2006) discovered that the main challenge presented by e-procurement service markets is the need to effectively integrate strategic sourcing and procurement services with the best technology. This integration helps to deliver a comprehensive procurement service that can be tailored to the unique needs of an individual buying organisation, while building trust between a customer and supplier. This is because the procurement process should ensure that the buying organisation is able to procure goods or services from the supplier based on “the five rights”, namely, the ability to purchase items at the right price, and the assurance that they will be delivered at the right time, delivered in the right quality, delivered in the right quantity, and that they will be purchased from the right source (Chaffey 2009).

E-procurement has turned the formerly ignored traditional procurement function into a competitive weapon (Sigala 2008). Strategic sourcing has been electronically enabled through Web applications that support auctions and reverse auctions (Moro et al. 2003). As stated by UPS Supply Chain Solutions (2005), the strategic sourcing approach can be utilised in sourcing or business strategy assessment. These assessments involve understanding the purchasing process, developing a strategy, operationalising the strategy and embedding the change of strategy. One of the strategic sourcing approaches to success is determining the approach to be taken towards suppliers.

ABSolute is an application system used for electronic sourcing (Bichler et al. 2001). One of the core components of ABSolute is an intelligent decision analysis engine for
electronic procurement, which is designed to handle large quantities of alternatives and attributes (Bichler et al. 2001). ABSolute provides advanced decision capabilities for bid selection, and requires a minimum amount of human labour in making decisions. The technique used is equally beneficial to business applications such as catalogue management, analytical product selection, procurement, and customer relationship management (Bichler et al. 2001). Advancements in technology can enhance the effective and efficient operation of the procurement process (Kheng and Al-Hawwadee 2002). However, social issues can be among the factors that influence the negotiation process. For instance, Aguir and Reis (2008) pointed out that the readiness of trading partners to perform electronic transactions is one of the main reasons for organisations to adopt e-procurement systems. Santema and Reunis (2008) reported that the use of e-procurement systems, particularly within organisational user groups, influences the adoption behaviour between two users in an organisation. Thus, the interaction between the users in e-procurement is important in ensuring that the procurement process can run smoothly. In doing so, the users of e-procurement systems from both procuring and supplying organisations will negotiate to overcome problems regarding the procuring of goods and services. The following section discusses the role of business negotiation in procuring goods and services.

2.8 Business Negotiation

Negotiation in the real world is a complex process (Thompson 2000). Negotiation can happen in a variety of ways: in personal lives, in business and government, and in international diplomacy. However, this research focuses on business negotiations, and consequently the literature significant to this thesis focuses on negotiation in business, most of which is undertaken in the context of corporate procurement and sales (Kim and Segev 2005). Furthermore, negotiation is a critical aspect of purchasing and supply chain management (Carter et al. 1998; Trent and Monzeka 1998; Crowder 1998). As the business environment becomes more dynamic, negotiations between partners are required more often (Cerquides et al. 2008). Furthermore, Sheer and Chan (2003) pointed out that
business negotiators need to be knowledgeable in certain areas of business such as management, product quality, technical specifications, equipment procurement and deployment, and distribution and supply networks, in order to ensure that negotiation with trading partners can be undertaken effectively.

Negotiation is a process of joint decision-making in which people with different preferred outcomes interact with each other in order to resolve their differences (Thompson 2000). Negotiation becomes a key decision-making approach used to reach consensus whenever the partners cannot achieve their business goals (Thompson 2000; Bichler et al. 2003; Mavious et al. 2006). Brett (2000) argued that while discussing the concept of negotiation, it is important to understand that negotiation involves certain types of criteria. These criteria include:

- Direct confrontation – Negotiation can involve direct confrontation, either face-to-face, electronically, or through agents or intermediaries.
- Types of negotiation – Negotiations may be transactional with buyers and sellers, or can be directed towards the resolution of conflict or disputes.
- Distributive and integrative agreements – These two types of agreements are related to the type of negotiation chosen, and are the result of transactional or conflict resolution negotiation, or may be purely distributive or integrative agreements.
- The process that leads to distributive and integrative agreements – In order to understand the negotiation process that leads to distributive and integrative agreements, there is a need to understand how information is used during negotiation.

There are two approaches to business negotiation, which include the distributive and the integrative approaches. The term “distributive negotiation” is used interchangeably with the terms “competitive”, “win-lose” or “transactional negotiation”, and the term “integrative negotiation” is used interchangeably with the terms “win-win”, “collaborative” or “relational negotiation” (Mavious et al. 2006). Within distributive
negotiation, businesses will take the approach where negotiation is a competition between each other, with one party gaining and one party losing. In contrast, the integrative approach is not a competition between businesses, and both parties should be a “winner” as a result of this negotiation (Mavious et al. 2006). The distributive approach is characterised by the perception that the issues under negotiation are fixed, whereas the integrative approach is characterised by the perception that the issues under negotiation are not fixed (Mavious et al. 2006). The negotiation approach selected by businesses will assist them in dealing with trading partners. Either approach selected by the business will have an influence on the matters that may arise during the business negotiation, such as the development of trading relationships and the qualification of suppliers (Bichler et al. 2001).

Brett (2000) explained that a negotiation process is a form of social interaction by which two or more parties try to resolve perceived incompatible goals. In addition, Bichler et al. (2003) explained that the negotiation process must consider all the rules that define the negotiation arena, which can include the agenda and the permissible decision-making and communication activities of the negotiators. This is referred to as a negotiation protocol (Bichler et al. 2003). Depending on the negotiation protocol, the negotiation structure can be divided into three levels: unstructured negotiation, semi-structured negotiation, and structured negotiation (Bichler et al. 2003):

1. Unstructured negotiation does not follow any protocol allowing for exchanges that do not conform to any rules (for instance, face-to-face negotiation);
2. Semi-structured negotiations follow certain rules but the protocol is not fully defined, allowing the participants to have some flexibility in their decision-making and information exchange activities (for instance, negotiations can be supported by a negotiation support system);
3. Structured negotiations follow a set of rules that fully define the parties’ decision-making and allowable activities (for instance, auctions).

Most traditional negotiations are conducted face-to-face, while others are conducted using mail, fax and telephone (Bichler et al. 2003). Traditional negotiations are based on
bilateral, multilateral or multi-bilateral negotiations over a single issue or group of issues, and they involve cooperation or competition amongst the negotiation agents (Bichler et al. 2003). Traditional negotiations are rarely completely structured, and they are comprised of negotiation situations in which haggling, bartering and tendering take place (Bichler et al. 2003). One of the most popular traditional negotiations is bilateral bargaining, which involves two parties who compete or cooperate in order to compromise on an issue. The following section discuss further on the patterns of negotiation in procuring goods and services.

2.8.1 Patterns of Negotiation

Hishiyama and Ishida (2005) pointed out that negotiation patterns can be categorised into two divisions: direct negotiation and indirect negotiation. Direct negotiation is the negotiation process based on the direct discussion of specific requirements. For example, if price reduction is the specific topic for negotiation, then the agent who has been delegated will negotiate the price directly. On the other hand, indirect negotiation is the negotiation process based on the indirect discussion of specific topics. For example, if price reduction is the specific requirement for negotiation, then the agent who has been delegated will negotiate attributes other than the price, such as the brand of the relevant product, in order to search for a better deal on the price (Hishiyama and Ishida 2005). Negotiation trade allows for the addressing of four matters, namely, price, delivery, payment, and the return of defective parts.

From a different perspective, Weigand et al. (2003) considered negotiation to be a communication process. In this approach, negotiation is seen as a communication process by which two or more interdependent parties resolve some matter over which they are in conflict (Adair and Brett 2004). Weingart and Olekalns (2004) also proposed that negotiation incorporates the communication process. They found that communication in negotiation can be analysed in relation to three processes, namely, frequencies, sequences and phases. The communication quality for business negotiation
is essential (Schoop et al. 2008). Schoop et al. (2008) claimed that the communication quality itself can affect economic negotiation outcomes in both the short-term and long-term. In a business negotiation, an agent can be used with the intention that they will reach an agreement based on demand and supply. The agents interact by means of communication, for example face-to-face discussion, telephone conversations and written means (Schoop et al. 2008) and most recently such interactions have occurred through electronic means (Landry 2000). One study focused on the use of email as a communication tool, and identified the strength of conflict resolution in the electronic environment (Landry 2000). However there are challenges in the workplace when using email to resolve conflict.

According to Thompson and Nadler (2002), negotiation is considered to be a mixed-motive enterprise – one that involves both cooperation and competition. As such, Thompson and Nadler (2002) claimed that the key task of negotiation is to expand the pie of resources (the cooperative aspect), and to claim resources (the competitive aspect). In negotiation theory, these tasks are referred to as integrative negotiation and distributive negotiation (Mavious et al. 2006). Thompson (1998) claimed that integrative negotiation is one form of a number of negotiation strategies. Integrative negotiation is a win-win negotiation strategy, while distributive negotiation is a win-lose negotiation strategy.

Ghauri (2005) stated that there are three stages in the negotiation process: the pre-negotiation stage, the negotiation stage, and the post-negotiation stage. In the pre-negotiation stage, both parties attempt to understand each other’s needs and offers. Both parties should know which type of decision-making procedures is going to be followed by the other party, and which type of strategy should be used in order to counter it. In the pre-negotiation stage, both parties gather a lot of information regarding each other. Watkins (1999) explained that there is a necessity to have a pre-negotiation preparation by establishing the interests, alternatives to agreement, and the best alternative to negotiate agreement (BATNA). Negotiation has been seen as a challenge in which obtaining more information regarding interests and creative options can be beneficial to
all parties, thereby creating better results and future relationships with trading partners (Mavious et al. 2006). This clarifies the importance of establishing a plan for both parties before the negotiation process takes place. Smeltzer and Manship et al. (2003) and Lewicki, Saunders and Minton (2000) pointed out that the importance of planning as a prerequisite for successful negotiations cannot be overstated.

Brett et al. (1998) claimed that one way for a negotiator to overcome another negotiator’s refusal to reciprocate is by labelling the process as counterproductive, and by combining reciprocation with a non-contentious communication. Ertel (1999) pointed out that the way a company measures the success of negotiation guides the way a negotiator approaches and conducts the negotiations. The measurement of the success of a negotiation can be undertaken through seven criteria: relationship, communication, interests, options, legitimacy, BATNA, and commitment. Finally, the post-negotiation stage is characterised by general agreement from both parties according to the language and format of the contract, and the signing of the contract (Ghauri 2005). E-negotiation can assist in business negotiation processes (Schoop 2005). The next section discusses e-negotiation as a tool used to assist the negotiation process.

2.8.2 E-Negotiation

Electronic negotiations are business negotiations conducted electronically, typically via the Internet (Schoop 2005). Thus, electronic negotiations follow patterns similar to traditional negotiations, but offer more features that utilise information technology. Examples include automated workflows, process support and communication exchanges (Schoop 2005). IT support for electronic negotiation is widely discussed in the literature, particularly in relation to computer science and information systems (Kersten and Lai 2007; Bichler et al. 2001; Moro et al. 2003; Bichler et al. 2003; Cerquides et al. 2007; Hobson 1999; Tang et al. 2007; Bui et al. 2006; Kim and Segev 2004; Dzeng and Lin 2005; Giovannucci et al. 2005).
Many systems have been designed to undertake the complex task of negotiation since the late 1970s. A variety of systems including the group decision support systems, group support systems and meeting support systems, all have functions that aim to manage and resolve conflict (Kersten and Lai 2007; Fjermestad and Hiltz 1999). For example, iBundler is an agent-aware negotiation service that was developed in order to determine the winner of a given negotiation based on buyer and provider constraints and preferences. iBundler is effective because it provides for negotiation events in industrial procurement which involve multiple, highly customisable goods (Aguiler and Cerquides 2004).

E-negotiation services can provide multiple benefits to business, which include:

1. The ability to overcome geographic and time boundaries – E-negotiation allows parties to negotiate with each other through the Internet anywhere, anytime, without the need for travel. This can provide time and cost savings (Yuan and Turel 2004);

2. The ability to facilitate the online negotiation process – The support provided through the e-negotiation process focuses on facilitating online negotiation processes at a variety of stages. These include preparing and submitting the case, selecting the mediator, making the mediation agreement, scheduling and conducting the negotiation and mediation sessions through electronic communication, and finally, reaching the settlement agreement (Yuan and Turel 2004);

3. The ability to improve the quality of the agreement – The e-negotiation solution helps to improve the quality of the agreement, and allows for mutual acceptance and satisfaction. The quality of the agreement can also be improved through providing professional guidance, and through the better training of negotiators (Yuan and Turel 2004);

4. The ability to integrate negotiation into contract management and other e-business negotiation services – E-negotiation can be integrated into the contract
management system in both the B2B electronic marketplace and the supply chain environment. The system also offers online contract negotiations. The solution allows companies to streamline their contract management process, and to improve their supplier relations as part of their supply chain integration process (Yuan and Turel 2004).

E-negotiation has been established as one of the e-procurement tools especially designed for business negotiations in order to assist procurement professionals in negotiation processes. However, as the complexity of business negotiation increases, procurement professionals face increasingly-complicated tasks in regard to comprehending and evaluating all of the meaningful issues and criteria related to business negotiation, particularly in the e-procurement environment. The following section discusses the potential social issues that might impact on business negotiation as part of the sourcing process in an e-procurement network, as part of the development of the conceptual framework for this study.

2.9 Social Issues in Negotiation in E-Procurement

A conceptual framework consists of a selection of concepts and the relationship amongst them that can be grouped so as to enable its users to identify their structure (Whetten 1989). This study attempts to develop a conceptual framework of negotiation in sourcing in the e-procurement environment. The conceptual framework will explain the phenomenon that needs to be explored, and in particular, will assist in identifying the social issues that relate to business negotiation in the sourcing process in an e-procurement network. The conceptual framework is derived from a substantial literature review regarding the concepts of e-procurement, sourcing, business negotiation and the potential social issues which may impact on business negotiation in e-procurement. The purpose of building this conceptual framework is to create a lens for the analysis of the collected data, in order to compare and validate the findings regarding the social issues emerging from the data with the assistance of the extant literature. It is noted that the
framework is not intended to list all the social issues, but only those directly related to business negotiation. The actual social issues addressed in this research are derived inductively from the empirical work.

2.9.1 Potential Social Issues in Business Negotiation in E-Procurement Networks

Lee (2001, p. iii) highlighted that IS research “examines more than just the technological systems, or just the social system, or even the two systems side by side; in addition, it investigates the phenomena that emerges when the two interact”. Furthermore, Mitev (2005) stated that in order to understand why information systems might fail, we should not only focus on the technological perspective, but also other perspectives such as those related to organisations, individuals, culture, context, power, systems, structure and politics. Social issues can have a significant influence on negotiation processes (Bichler 2003). The potential social issues that may influence business negotiation in an e-procurement environment can include culture, trust, relationships with trading partners, collaboration and individuality. These social issues are discussed in the next section.

2.9.1.1 Business Negotiation and Culture

Culture refers to the shared values, expectations and norms found within countries, regions, social groups, business firms and even departments and work groups within a firm (Mead 1998). Culture consists of the shared beliefs, attitudes, norms and behaviours of a group’s members, and the group’s social political, economic and religious institutional structure (Adair and Brett 2004). People from different nationalities are programmed by their own distinct cultures (Hofstede 1984). Hofstede (1980) suggested that the national cultures of the world differ mainly along the four different dimensions of power distance, individualism versus collectivism, masculinity and femininity, and uncertainty avoidance; with a fifth dimension of time orientation later added to this theory. Ford et al. (1997) found that cultures with high levels of collectivism spend more time on non-task negotiation activities, and spend more time in positioning and planning.
Gulbro and Herbig (1999) found that high-power distance cultures spend less time compromising, and high-masculinity cultures spend less time persuading, whereas high-uncertainty avoidance cultures spend more time either in or seeking agreement. Understanding different cultures will help negotiators to operate effectively.

Sebenius (2002) argued that every individual represents, and is influenced by, a number of cultures, each of which can affect their own negotiation style. Cultural differences can influence business negotiations in significant and unexpected ways (Sebenius 2002). According to Gacha (2000), culture plays a key role in negotiation. Culture influences who the active negotiators are, their behaviour and strategies, and ultimately the very negotiation process itself (Gacha 2000). According to Cohen (1997), the cultural aspects of communication are peripheral to the understanding of the basic negotiation process. This is because negotiation is a universal process where cultural differences simply result in differences regarding style and language (Gacha 2000). Sebenius stated that interaction in any negotiation is normally conducted by individuals, but the real purpose of negotiation is to influence a larger organisation that represents a diverse set of interests. Therefore, the organisation that is involved in negotiation needs to know who is involved in the larger decision process and what role they play. As such, Sebenius suggested that it is useful to break down the decision-making process into three roles: who are the players, who decide what, and what are the informal influences that can make or break a deal.

Metcalf et al. (2006) identified ten dimensions to systematically identify possible areas of tension in negotiation, enabling negotiators to appropriately adjust their expectations and negotiation practices accordingly. These ten dimensions are built on the work by Salacuse (1998) on cultural influences that impact the negotiation process. These ten dimensions are: the primary goal of business negotiation between two parties is to arrive at a signed contract or to build a relationship between two parties; the attitude of business negotiators (either both parties can gain or struggle so that there is a winner and a loser); the personal style of business negotiators interact with others are use titles and dress; the
complexity style of communication either direct or indirect communication between business negotiators; the time sensitivity in making a deal among negotiators (either slow or quick); the tendency to act emotionally during the negotiation process (whether the negotiators are highly emotional or show low levels of emotion while negotiating); the final agreement formed between the negotiators contains specific or general information; the negotiators commence the negotiation by negotiating specific items or general items; the decision-making for the negotiation is either done by a negotiation team or individually; and the negotiators from different countries will have different perceptions of risk.

Hofstede (1989) stated that sharing a similar professional culture could make it easier for people from different countries to successfully discuss the issues they face. In a similar vein, Adair et al. (2004) investigated the strategies used by negotiators in different cultures, specifically in France, Russia, Japan, Hong Kong, Brazil and the United States. Their study indicated that understanding the other negotiating party’s cultural characteristics and strategies can help negotiators plan how to focus their information exchange for the purpose of negotiation. Herbig and Gulbro (1997) argued that negotiators must devote time to the negotiation process, must be prepared, and must enhance their knowledge of the other party’s culture in order to improve their chances of success.

Cultural differences and the use of information technology or information systems in negotiation processes have been widely discussed in the literature (Peszynski and Thanasakit 2002; Corbitt et al. 2004; Myers and Tan 2002; Woo and Prudhomme 1999). For example, Corbitt et al. (2004) stated that many organisations conduct business beyond their national boundaries, and these global activities are facilitated and supported to a large extent by current communication and information technologies. Thus, it is important to understand the impact of cultural differences on these activities. The next section discusses trust as a potential social issue that warrants consideration in the understanding of business negotiations in e-procurement.
2.9.1.2 Business Negotiation and Trust

Trust is an important social issue that needs to be considered in business negotiation. According to Chan and Lee (2003), the relationship between procurers and suppliers should be based on trust: as Butler (1999) highlighted, trust plays an important role in information sharing between negotiators. In 1993, Siemens lost a two billion Pound Sterling contract for delivering new trains to South Korea because the contract negotiations were intercepted (Homann et al. 2005). The interception of the Siemens contract negotiations led to a breakdown in trust between the South Korean representatives and Siemens. Research conducted by Thompson and Nadler (2003) discovered that trust is a factor that influences the quality of a negotiation outcome.

The role of trust in business-to-business electronic commerce has been explored by Tung et al. (2003) who found that trading partner trust and electronic trust are factors that should be considered by a party before participating in e-commerce. This means that the level of trust between trading partners in face-to-face business is equal to the trust between partners who conduct business electronically. Another discovery in relation to business-to-business e-commerce in Singapore was that keeping commitments may trump honest negotiation as the driving force behind the development of trust (Tung et al. 2003). The concept of trust in the e-commerce environment, from the social perspective, is based around moral duty. Moral duty consists of two components, namely, how we feel about being trusted, and how we feel about having to trust other people (Ratnasingham 1998).

The problem of trust in electronic negotiation has received significant attention by researchers (Schoop 2005; Valley et al. 1998; Carter et al. 2003; Sheehy and Palanovies 2006). Valley et al. (1998) highlighted that establishing a trusting relationship is considered to be a key to successful electronic negotiations. Likewise, Schoop (2005) pointed out that the problems faced in electronic negotiation need to be resolved by offering some trust-enhancing mechanisms to users. For instance, when employing e-
procurement solutions in the public sector, both buyer and supplier security requirements must be considered (Vaidya et al. 2006). Furthermore, negotiators who establish rapport prior to commencing negotiation via email report significantly higher levels of trust in their counterparts (Carter et al. 2003). While trust has been identified as an issue in business negotiation, there is nonetheless a lack of literature exploring trust in business negotiations, particularly in the e-procurement environment. This is therefore a field for potential research. The next section explores the relationship with trading partners as one of the potential social issues that can influence business negotiation in regard to e-procurement.

2.9.1.3 Business Negotiation and Business Relationship with Trading Partners

Another potential social issue that may influence business negotiation in e-procurement is the relationship between trading partners. Ritter et al. (2004) highlighted that in performing business activities, firms may develop relationships with various types of firms and other types of organisations, because such relationships may directly or indirectly affect business performance. As highlighted by Brandenburger and Nalebuff (1997) and Ritter et al. (2004), the types of relationships experienced by business partners can include the relationship with customers, the relationship with suppliers. Rammal (2005) pointed out that there is a need to build the relationship between business negotiators because, as stated by Carr and Pearson (1999), firms that strategically manage long-term relationships with key suppliers can have a positive impact specifically on their financial performance. Carr and Pearson (2002) have likewise highlighted that the involvement of purchasers and suppliers in business can have a positive impact on strategic purchasing. In addition, Thompson and Nadler (2003) have discovered that negotiators who have a positive relationship with their trading partners are more likely to exert a positive influence on their trading partners during the negotiation process. Thus, the issue of relationship building needs to be considered in business negotiations.
Ritter et al. (2004) highlighted that the focus on understanding the relationships and networks between trading partners has now shifted towards managing the business relationships and networks between trading partners. The ability to develop and maintain effective and productive relationships with other members in business is an important trait for managers (Ritter et al. 2004). Angeles (2006) found that the types of relationships a buyer should have with suppliers can be categorised into three types, namely, transactional, contractual, and strategic relationships as follows:

- *Transaction relationship* – A buyer organisation has a transactional relationship with its supplier if it purchases goods or services in an opportunistic manner, mainly seeking cost savings and advantages such as opportunities to reduce maverick purchases;
- *Contractual relationship* – A contractual relationship arises when a buyer organisation commits to the particular supplier for a limited period of time, in order to ensure a reliable source of supply;
- *Strategic relationship* – A buyer organisation can choose to arrange a strategic partnership with a highly valued supplier, usually a tier-one supplier. This supplier serves as the main supplier, such as a manufacturer, who will be the key source of critical goods and services in the long-term. Usually, the buyer organisation works closely with its supplier in this relationship.

Therefore, business partners need to understand the different types of relationships that exist in business, in order to ensure that negotiations between trading partners can run smoothly. This style of negotiation can be obtained if business partners know the importance of building and maintaining good relationships between trading partners. Another social issue that might affect the negotiation process in the e-procurement environment is collaboration. The next section explains negotiation and collaboration.
2.9.1.4 Business Negotiation and Collaboration

Another issue that warrants exploration in terms of negotiation is identifying the possibility of collaborating with suppliers and partners through contract negotiation (Gabauer and Segev 2001). Forrester Research (2003) suggested that a different sourcing strategy is needed in each stage of the sourcing process and that these strategies should be included in the contract negotiations. Mihaly (1999, p.4) stated that “leading companies know that today collaboration is not competition to win business wars”. In a statement by Michael E. Jacoby, Executive Vice President of Phoenix Management Services, “using vendors as partners in the purchasing process is not beating them up to get the lowest price, but really working collaboratively that is the most dramatic trend we have witnessed” (in Mihaly 1999, p.4). For instance, Phoenix advises clients to try bringing vendors into the operation, walking them around the floor, and talking about ways in which they can help the company either to reduce costs or produce a better product (Mihaly 1999). By incorporating these collaboration techniques between procurers and suppliers, business negotiation in e-procurement may operate more effectively.

One study on partnership sourcing reports that developing more collaborative relations with suppliers led to the restructuring of purchasing into two functions, namely, buying and product introduction (McIvor and McHugh 2000). Buying involves both day-to-day buying and supplier management activities. New product introduction involves the organisational aspects of purchasing, such as new product development, new product introduction, contract management, engineering and quality management. McIvor and McHugh (2000) stated that when adopting collaborative buyer-supplier relationships, it is essential to assess the impact of those most affected by new developments. This assessment is likely to reveal a need for training in regard to both skills acquisition and development in a variety of areas including teamwork, problem-solving, negotiation, and conflict management. Therefore, if the negotiator takes into consideration such potential collaboration functions in their business transactions, negotiations may run smoothly.
The potential social issues that might influence business negotiation in an e-procurement network, as identified from the literature reviewed above, pertain to negotiation, procurement and sourcing (Gabuer and Segev 2001; Ritter et al. 2004; Rammal 2005). Due to the wide discussion of social issues in the context of negotiation, procurement and sourcing, it is proposed that these social issues will influence business negotiations in e-procurement networks as well. According to the discussion regarding the impact of social issues, particularly those which warrant exploration in terms of influencing business negotiations in e-procurement, a conceptual framework is developed in the present research to be explored in data collection and analysis. The data collection process is presented in Chapter 4, while the analysis is discussed in Chapters 5, 6, 7 and 8. The following section builds the conceptual framework for this research, by discussing both the selection of concepts discussed in this chapter and the relationships between them, for the purpose of establishing the research conceptual framework.

2.10 Conceptual Framework

The focus of this study is on negotiation in the sourcing process in an e-procurement network. The development of this framework emerged from the discussion in the literature regarding the concepts of e-procurement, sourcing and business negotiation and the way each of these concepts related to each other. The framework focuses on business negotiation in sourcing as part of the e-procurement process, and is presented diagrammatically in Figure 2.6. The framework enables the present research to reach its main goal which is to identify the social issues that influence business negotiations in the sourcing process within an e-procurement network.
E-procurement is used to assist purchasing organisations in the procuring of goods and services between trading partners that are procurer and supplier. The Internet has influenced the procuring of goods and services through the technological development of e-procurement tools such as the e-catalogue, e-reverse auction, e-auction and e-negotiation. The use of e-procurement in procuring goods and services helps procuring organisations to expedite procurement processes, including selection and negotiations with suppliers. Although there is uncertainty involved in procuring goods and services electronically, e-procurement can expedite the procurement process with suppliers through the benefits of electronic information sharing. Expediting the process of sharing information with suppliers can provide an opportunity for procuring organisations to make a better selection of suppliers while procuring goods and services. Suppliers have become a major trading partner for procuring organisations in business. Within the e-procurement environment for procuring goods and services, procuring organisations will have a good opportunity to determine the potential number of suppliers. However, one of the main challenges faced by a buying organisation in using e-procurement is when e-
procurement service markets cannot deliver a comprehensive procurement service that can be tailored to the unique needs of an individual buying organisation. Likewise, a challenge is faced when e-procurement cannot build trust in a customer and supplier relationship, which is a necessary prerequisite for effectively integrating strategic sourcing and procurement services with the best available technology.

As the use of e-procurement shifts the balance of power from suppliers to buyers (Wyld 2001), there is a need for procuring organisations to place greater value on the importance of sourcing in e-procurement. According to Puschman and Alt (2005), the steps involved in the sourcing process range beyond just supplier selection. These steps include product specification, procurement planning, supplier selection, request for quotation, assessment of quotations and finally the negotiation process. The sourcing process of multiple goods or services usually involves complex negotiations that can include discussions of product features, as well as quality, services and availability issues (Aguiler et al. 2007). As such, there is a need for the negotiation plan to be integrated within the strategic sourcing process, in order to ensure that the negotiation process can be achieved in an e-procurement environment (Smeltzer et al. 2003). Furthermore, Araz and Ozkarahan (2007) stated that collaborating with the right suppliers and managing them is becoming more essential as strategic partnerships are now being implemented with suppliers.

Negotiation with suppliers is an essential element in procurement, as it ensures that procuring organisations can obtain the goods and services they require from the suppliers. In order for the procuring organisations to achieve their objectives, they need to understand the importance of negotiation in the e-procurement environment, and the uncertainty of the procurement process in an electronic environment. Ambiguity in procurement processes may cause disputes between two parties and, therefore, negotiation in e-procurement can assist procuring organisations to overcome these problems. In order to ensure that the negotiation process can be achieved, managerial teams such as sourcing teams, supply managers and purchasing managers need to
understand the importance of all the steps involved, allowing them to fully integrate the results from sourcing into the negotiation process (Smeltzer et al. 2003).

However, there are many other potential issues that might influence business negotiation, including trust (Thomson and Wadler 2003), culture (Adair and Brett 2004), and the relationship with trading partners (Ritter et al. 2004). These issues might influence the negotiations between procuring organisations and suppliers in e-procurement networks. Therefore, in building this conceptual framework, the present research attempts to explore social issues in business negotiation between trading partners, in the sourcing processes utilised in an e-procurement network. This research focus is valuable while investigating the influencing factors of negotiation within the e-procurement context. By identifying and understanding the factors that influence business negotiation, the value chain between partners can be improved within the e-procurement network. By improving the negotiation process, it is hoped that greater success in e-procurement practices can be achieved.

In helping to determine how social issues can influence business negotiations within e-procurement networks, actor-network theory is chosen as a lens to explore the phenomenon. The following chapter explain show ANT is used in this research, particularly to answer the main research question: “How does negotiation operate in the sourcing process between partners in an e-procurement network?”
Chapter 3 – Actor-network Theory

3.1 Introduction

The previous chapter explored the existing literature in order to develop a conceptual framework enabling the researcher to address the main research question: “How does negotiation operate in the sourcing process between partners in an e-procurement network?” This chapter describes how actor-network theory is used as a conceptual lens in order to answer the research question. ANT is used as a basis for the analysis of the case studies exploring negotiation in e-procurement. This chapter is divided into three sections. The following section discusses actor-network theory in regard to its theoretical background concepts. The subsequent section discusses the use of ANT in information technology. The final section evaluates some of the limitations of ANT, and discusses the use of ANT within the context of this study.

3.2 Actor-network Theory and its Concepts

A theory provides the guidelines needed to answer common questions such as how, when, what, where, who and why (Wacker 1998). Theory can also be used as an initial guide for research design and the collection of data, as part of an iterative process of data collection and analysis, or as a final product of research (Walsham 1995). However, during the process of choosing a theory, as Walsham (2006) pointed out, a theory should be considered to be essentially subjective. Researchers need to choose a theory “which they feel is in insightful to them” (Walsham 2006, p. 325). As this research is about negotiation in e-procurement, which involves many actors, ANT is used as the methodological tool to assist the researcher to ‘unpack’ the actors involved in negotiation within an e-procurement network. As stated by Callon (1986), a fundamental aspect of ANT is the methodological guidance needed to follow the activities of both human and non-human actors. Therefore, the researcher selected actor-network theory as it could be utilised as a basis for the analysis of the case studies of negotiation in e-procurement.
ANT is not a theory per se. Theories usually attempt to explain why something happens, while ANT emphasises how associations are made and transformed (Latour 2005). Law (2007, p. 141) explained that:

The actor-network approach is not a theory. Theories usually try to explain why something happens, but actor-network theory is descriptive rather than foundational in explanatory terms, which means that is a disappointment for those seeking strong accounts. Instead it tells stories about ‘how’ relations assemble or don’t. As a form, one of several, of semiotics, it is better understood as a toolkit for telling interesting stories about, and interfering in, those relations. More profoundly, it is a sensibility to the messy practices of rationality and materiality of the world.

A key proposition of ANT is to treat human and non-human actors, as well as networks, in a symmetrical fashion (Pouloudi 2004). ANT is also known as the sociology of translation, because it outlines how actors form alliances and enrol other actors, and use non-human actors (artefacts) to strengthen such alliances. Thus, according to ANT, actor networks are created which contain humans as well as artefacts (Callon 1986). Actor-network theorists want to understand and illustrate how a bond has been created between human actors and non-human actors (Dolwick 2009).

Hanseth et al. (2004) classified this theory as a social theory of technology, because of its potential contribution to gaining a better understanding of the social context of the development, implementation and use of information systems. ANT emerged during the mid-1980s, primarily through the work of Latour (1987, 1992, 2005), Callon (1986, 1991) and Law (1992), and researchers have since then continuously used this theory in the IS field in order to explore the interaction between human and non-human actors (Walsham 1997; Saundage 2009; Holmstron and Stalder 2001). Callon (1999) highlighted that the absence of a theory of the actor, when combined with the role attributed to non-humans in the description of actions is precisely one of the strengths of ANT. Therefore, the principles of ANT have been articulated through an elaborate
vocabulary of conceptual tools that aim to describe the complexity of socio-technical phenomena (Latour 1991). The main elements of the vocabulary of ANT that are used in this thesis include: actor, actor network, translation, problematisation, interessement, and enrolment. Mobilization is one more concept that include in the translation process. However, this concept will not be applicable to explain the research phenomenon that is negotiation between partners in e-procurement network.

### 3.2.1 Actors and the Actor Network

The concept of the actor in ANT is defined as “any element which bends space around itself, makes other elements dependent upon itself and translates their will into the language of its own” (Callon and Latour 1981, p.286). Elements that are called an actor in ANT can include human actors and non-human actors. The actor is sometimes referred to as an actant (Hanseth et al. 2004). Common examples of actors include humans, collectives of humans, texts, graphical representations and technical artefacts and computers (Hanseth et al. 2004). Latour (2005) provided the example of the “actor” from a drama within the theatre. The actor in this sense suggests that the source of inspiration of the action is somewhere else, perhaps in the audience, in the backstage area, in the crew, the props, the playwright or the character. Law (2003) implied that each actor can be defined and understood only in relation to other actors. As Callon and Latour (1981) stated, actors, all of which have interests, try to convince other actors so as to create an alignment of the other actors’ interests with their own. The interests of a non-human actor can be equated to the interest that has been inscribed to it. For instance it may be argued that a car’s seatbelt has an interest in a passenger’s safety that was inscribed in it by its designer.

Actor-network theorists suggest that human and non-human elements should not be viewed as completely independent elements, but rather as parts of a linked heterogeneous network (Latour 2005). Walsham and Sahay (1999, p.42) defined the actor-network as a “heterogeneous network of aligned interest, including people, organisations and
standards”. ANT assumes that all networks are heterogeneous or socio-technical (Latour 2005). There are no networks that consist only of humans or only of technological components. All networks contain elements of both. Stalder (2001) stated that there are no actors without networks and no networks without actors, as both need to perform their roles for the other to exist, and this is the activity that takes place within a technological environment. Law (2003) further highlighted the need to switch attention to individual network elements whenever any degeneration appears likely to occur within the network package. An example of this could be that the human body is seen as a unitary whole while it works normally; yet a sick person needs to be viewed as a complex network of physiological processes by his or her physician.

3.2.2 Translation

Translation in the ANT vocabulary refers to the creation of an actor-network (Callon 1986). In creating an actor network, the interests, meanings and values of different actors are aligned through the process of negotiation. This develops and stabilises the network that has been created (Callon 1986). The actors claim the authority to act and speak on behalf of other actors (Callon and Latour 1981). The translation can only be clearly understood when it is examined from the point of view of a specific actor, because within organisations there are often multiple actors initiating and engaging in translation, each with different interests and outcomes. A focal actor is often the key actor that drives the process of enlisting the other actors’ support for organisational initiatives (Callon 1986). The process of translation can be divided into three stages, namely, problematisation, interessement and enrolment (Callon 1986). The translation processes may not involve all three stages, and a translation process may fail and break at any stage (Callon 1986).

Problematisation is the first stage of translation, during which a focal actor frames a problem or an opportunity in his or her own terms. The focal actor identifies other relevant actors, and highlights how the problem can be adapted. It is crucial that a solution is found that meets the common interest of the participating actors, despite their
many varied interests. Therefore, the focal actor must outline broad strategies for addressing the problem at hand, and must establish the obligatory passage point (OPP). The OPP refers to a situation or process that is specified by the focal actor, through which all relevant actors can find a shared focus while successfully pursuing the interest attributed to them. While the OPP lies on the path of the focal actor, other actors also need to be convinced to pass through the OPP by modifying their behaviour in a way that ensures they are consistent with the OPP. Figure 3.1 represents the problematisation moment that shows the actors’ diversion from overcoming the obstacles in their way, in order to reach their goals.

![Diagram](image)

Figure 3.1: Problematisation moment in the translation process – Actors’ diversion to overcome obstacles (Adopted from Callon 1986)

Figure 3.1 shows the actors involved in the problematisation moment, where Actor 1 represents the focal actor and Actor 2, Actor 3 and Actor 4 are the relevant actors identified by the focal actor. Each actor involved has their own goals or interests to achieve. These goals can only be achieved if the problems framed by the focal actor can be overcome. Thus, the OPP is the strategy suggested by the focal actor to the relevant actors, which they can follow in order to avoid obstacles and reach their goals.
Interessement is the second moment of translation that involves convincing other heterogeneous actors that the interests defined by the focal actor are consistent with what their own interests should be (Callon 1986). In other words, interessement refers to other actors becoming interested in the proposed solution. The process of interessement often involves negotiations amongst actors. However, the actors are not always involved in the negotiation process. Speakers or representatives normally undertake the negotiation on behalf of the actors (Callon 1986). A speaker is sometimes called the “spokesperson”, and acts as a facilitator who speaks on behalf of other actors (Callon 1986).

If the interessement is successful then enrolment is said to occur. Enrolment involves the definition of the roles of each actor in the newly created actor network, such that the focal actor aligns the defined roles with the interests of the network. The actors, after being convinced by the focal actor, accept their roles and interests (Callon 1986). Inscription occurs often as part of the enrolment process (Callon 1986). Inscription is the process whereby, once an agreement between actors has been reached, the commitment is recorded into the shared memory of the social system through the creation of text; for instance, a software manual or technical artefact such as a security system.

Mobilization is the final stage of translation process. Mobilization includes initiators’ use of a set of methods to ensure that allied spokespersons act according to the agreement and do not betray the initiator’s interest. Building on a set of enrolled actors, initiators seek to secure continued support to the underlying ideas from enrolled actors. With allies mobilized, an actor-network achieves stability (Callon 1986).

### 3.3 Research Applying ANT to Information Technology

In the field of information technology, ANT has been recognised as having immense potential for understanding the complex social interactions associated with the field
Cordella and Shaikh (2003) pointed out that ANT is increasingly used as an analytical framework to inform information systems.

Supratek et al. (2006) used ANT in order to understand business process change (BPC) failure at a telecommunications company in the United States. The specific issues discussed in their interpretive case study included the role of the individual, the stage of the project when the failure occurred, and the information learned from other stakeholders. Formal and informal face-to-face interviews, which included a total of eleven interviews, were conducted with the vice president or process owner, the BPC team member, the marketing executive and the union executive vice president. The study found that the BPC failure was caused by errors in problematisation, by parallel translation, by betrayal, and by the irreversible inscription of interests (Supratek et al. 2006).

Lin and Chiasson (2007) used ANT to study the diffusion of IT innovation among mobile-TV services. ANT helped understand how adopters perceived their relative advantages in one or more networks and how their involvement can reinvent the production and diffusion of innovation. Furthermore, their study supported the notion of two areas in diffusion: the study of dynamic diffusion, and the role of many diverse players involved in the production and diffusion of IT innovation.

In a study of the implementation of an inter-organisational information system in the seaport of Barcelona, Rodon et al. (2008) pointed out that the system’s implementation could not be explained only by a fixed set of independent factors, but must also consider the dynamic mutual shaping of socio-technical actors throughout the implementation. Rodon et al. highlighted in their study the importance of complying with technical and non-technical components of the installed base for an information system to be successfully initiated. The socio-technical actors in their case included the port authority, the Port Information and Communication System, the system’s manager, the port agent’s
manager, the port agent’s installed base of systems, the port agent’s IS manager, and the associated consultancies, customs and banks.

A longitudinal study on an e-government project called the Integrated Financial Management Information System at Sri Lanka’s Ministry of Finance used ANT to provide a valuable understanding of the local and global actor-network framing the e-government project utilised at the ministry (Heeks and Stanforth 2007). Heeks and Stanforth (2007) found that no single actor could control the trajectory of the e-government project. Thus, in order to ensure the e-government project success, there was a need to build a relationship with other actors through the dynamically-enacted concept of power (Heeks and Stanforth 2007).

A study conducted by Saundage (2009) used ANT to explore vertical IS standardisation initiatives in two Australian industries. Saundage found that to develop vertical IS standards, a persuasive value proposition is needed to encourage participants. Furthermore, without social interactions between participants, the progress of standard development may be delayed (Saundage 2009). Saundage also described the arguments and incentives that can attract other organisations to participate in vertical are standards. A study conducted by Wickhramasinghe et al. (2007) used ANT as a lens to capture all the complexities of healthcare dynamics. They looked at the diffusion of e-health and the application of ICT in healthcare (Wickhramasinghe et al. 2007). Bielenia (2011) used ANT in an organisational study to explain issues in ecosystems and power.

A series of studies conducted by Tatnall (1999, 2001, 2004, 2005) used ANT to explain the interactions and associations of both human and non-human actors involved in technology innovation. Tatnall (1999) claimed that building an information system is a difficult task due to the problems of ascertaining the requirements of the intended users and the complexity of the large number of human-machine interactions. Tatnall pointed out that the complexity in building an information system requires the involvement of
technological innovation, and proposed that the innovation translation in ANT can be used as a method to examine technological innovations.

Another study conducted by Tatnall et al. (2005) used ANT to research the implementation of a business-to-business portal for regional SMEs in Melbourne, Australia. Data was collected through a focus group, and interviews were conducted in order to explore the formation and development of networks and to examine the alliances built along the way. Their research found that adopting such a portal was seen as a complex decision that involved not just a yes or no response; rather, it was a complex set of negotiations between a number of human and non-human actors. Most businesses adopting the portal did so because it seemed to them to be ‘a good idea’, rather than because they had any clear idea of its benefits.

Later, Tatnall and Burgess (2004) used ANT to identify factors affecting the adoption of e-commerce in Australian SMEs. Tatnall and Lepa (2003) extended the research on ANT to look at the adoption of e-commerce among older people. They wanted to understand the problems in adopting e-commerce among older people and in particular whether the problems come from the complexity of human and non-human interactions in the project or come from the characteristics of the technology (Tatnall and Lepa 2003). Tatnall and Lepa found that the problems in e-commerce adoption among older people were due to the human and non-human actor interaction rather than the characteristics of the technology. In that study, they described ANT as a socio-technical approach in IS research where ANT is used to research how people interact with and use information systems.

ANT has thus been used widely in IS research to understand the complex social interactions related to information technology. The following section looks at how ANT is used for the present study, particularly in relation to negotiations between partners in e-procurement.
3.4 Applying ANT to this Study

Prior studies using ANT have focused on the exploration of the actor-network involved in the implementation of IT projects, such as business process change, inter-organisational information systems, business-to-business systems and e-government systems (Tatnall and Burgess 2005; Heeks and Stanforth 2007; Rodon et al. 2008). This study uses ANT to explore negotiation in different e-procurement networks. The researcher follows the works by Tatnall (2010), Tatnall and Burgess (2004), Tatnall and Lepa (2003), Tatnall and Davey (2001) and Tatnall et al. (2003 and 2005) in using ANT to describe and explain negotiation in the e-procurement network. Table 3.1 presents a summary of the application of Tatnall’s work in this study where ANT is used to study the actors involved in negotiation in e-procurement, to understand how the actor-network is built, and to understand how social issues influence the use of e-procurement systems.

Table 3.1: Application of Tatnall’s work in the study of negotiation in the e-procurement network

<table>
<thead>
<tr>
<th>Year</th>
<th>Tatnall’s work</th>
<th>Study on negotiation in e-procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tatnall and Burgess (2004)</td>
<td>ANT used to identify factors affecting the adoption of e-commerce in Australian SMEs</td>
<td>ANT used to identify factors influencing negotiation in e-procurement, in particular the social issues, and understand how social issues influence the use of an e-procurement system</td>
</tr>
<tr>
<td>Tatnall et al. (2003), Tatnall and Lepa (2003)</td>
<td>ANT used to explain how people interact with and use information systems</td>
<td>ANT used to explain and understand how the actor-network is built in negotiations in an e-procurement network</td>
</tr>
<tr>
<td>Tatnall et al. (2005), Tatnall and Davey (2001), Tatnall (2010)</td>
<td>ANT used to study the involvement of human and non-human actors in information systems</td>
<td>ANT used to study actors involved in negotiation in an e-procurement network</td>
</tr>
</tbody>
</table>

Based on the approaches presented in Table 3.1 and building on the concepts of ANT as explained above, the present research explores negotiation in the e-procurement network.
As such, ANT is appropriate for use in this study because it has the potential to identify and acknowledge the key human and non-human actors within an organisation, and the effect on the potential issues that might occur. Thus, ANT is used to examine a process of building an actor-network in negotiation in e-procurement.

A core ANT concept used for this study is the translation process. As discussed in the previous section, the translation process is the central concept of ANT. The main concept of translation relates to the process of different actors’ interests being united to form alliances, thus developing and stabilising the network. Hence, the approach used for this study is to identify and trace the relevant networks by following actors’ activities in negotiation in e-procurement, and by examining the involvement of any relevant new actors. Those actors include human or non-human actors.

As Pouloudi et al. (2000) stated, a researcher can trace an actor-network by following the actors and observing what they do. In negotiations in e-procurement, the actors would include the procurers, the suppliers, the e-procurement tools, and the products or services procured. Identifying human actors and their activities would be straightforward because human actors can speak and express their interest or needs while forming a network with other human actors. However, in regard to non-human actors it is necessary to find someone or something to speak on their behalf. Thus for non-human actors, a “spokesperson” is needed to express and defend their interests. For instance, the e-procurement tools used to procure goods and services will be one of the non-human actors involved in negotiations in e-procurement. Therefore, the users of the system would be the spokespeople for the e-procurement tools used. Another example of non-human actors are the products and services procured, with the spokesperson for these actors being the documentation prepared in procuring those goods and services. The aim of identifying the interests of human and non-human actors in negotiations in e-procurement is to determine how these actors relate to each other, as the concept of translation is about understanding the creation of actor networks made up of both human and non-human actors (Callon 1986).
In identifying and ensuring the stabilisation of the network, the research aims to identify the actors involved in the negotiation processes involved in e-procurement. The focal actor is identified first, because the focal actor is the main actor involved in negotiations in e-procurement. Once the focal actor is identified, the focal actor can identify other actors involved in negotiations in the e-procurement environment. The success of negotiation between human actors and non-human actors shows that an association between them has been created, indicating that the network has been created. Negotiation between partners in e-procurement may be regarded as the stabilisation or non-stabilisation of an actor network, as a result of the involvement of the actors. The key to success in using e-procurement tools to support negotiation in e-procurement lies in the ability of the actors to form alliances among themselves. For instance, the involvement of e-procurement tools as non-human actors and the users of e-procurement tools as human actors in a negotiation process, indicates that the users of e-procurement tools rely on the system to expedite negotiation processes with other actors, such as suppliers. Thus, by creating an alliance with actors involved in negotiation processes, a network can be formed. In addition, the network formed can be stabilised as long as the actors involved have the ability to understand their individual roles within the network formed. This is the process of problematisation.

In ensuring the stabilisation of e-procurement network success, the appointed focal actor in the e-procurement network will try to convince the other actors involved in the e-procurement to agree with the interest defined for them. The interest defined by the focal actor is to ensure the goals for each actor involved in negotiation will be achieved. By agreeing with the interest proposed by the focal actor, any shortcomings will be reduced in the e-procurement environment among the actors that are involved. This is because each of the actors involved in the e-procurement network will have a mutual understanding of how each of them should work together to fulfil other actors’ needs. By having this mutual understanding via the proposed interest, the e-procurement network can be established and maintained.
The success of negotiation in the e-procurement network can be identified via the enrolment process in which each actor accepts the roles and interests proposed by the focal actor. However, if the interest proposed by the focal actor does not satisfy the actors involved in the negotiation process in the e-procurement network, then the network is considered unestablished in the e-procurement environment. The negotiation process in procuring the goods or services will not run smoothly and the involvement of the actors involved in the e-procurement network will not be maintained.

3.5 Summary

This chapter described the theory utilised in this thesis in order to guide the research. The research uses ANT as a methodological tool to analyse the data obtained and as a lens to tell the story of negotiation within the sourcing process of different e-procurement networks. The following chapter elucidates the methodology used to obtain data surrounding negotiation in the e-procurement network, including the philosophical stance, the research design and the methods used to collect and analyse the data.
Chapter 4 – Methodology

4.1 Introduction

In this chapter, the philosophical issues that led to this study’s research design are explained. As stated by Easterby-Smith et al. (2002), there are three reasons why understanding such philosophical issues is useful:

1) Knowing the philosophy helps the researcher to provide good answers to the basic questions being investigated during the research;
2) Knowing the philosophy helps the researcher to recognise which designs will work and which will not;
3) Knowing the philosophy helps the researcher to identify and create a design that may be outside his or her experience, and to adapt research designs regarding the constraints of different subjects or knowledge structures.

Thus, the first section of this chapter explains the philosophy that is applicable for this research, specifically exploring negotiation in the sourcing process between partners in e-procurement networks. The second part of this chapter explains the research design that consists of the data collection strategy and the data analysis strategy. The final section of the chapter explores issues of validity and reliability.

4.2 Philosophical Stance

According to Collis and Hussey (2003), the researcher should recognise and understand the chosen paradigm, because the paradigm will reflect the way that the researcher will design his or her research. Guba and Lincoln (1989, p. 107) viewed a research paradigm as the “basic beliefs (or metaphysics) that deals with ultimate or first principles that represents a worldview that defines, for its holder, the nature of the world, the
individual’s place in it, and the range of possible relationships to that world and its parts”. Guba and Lincoln highlighted that the basic belief systems of the world guide the researcher not only in regard to method, but also ontologically and epistemologically. This is because methodological choices for social science are related by ontology and epistemology (Easterby-Smith et al. 2002).

Chua (in Orlikowski and Baroudi 2002) classified approaches to research epistemology as positivist, interpretive or critical realist. Walsham (1995) claimed that the differences between interpretive and positivist paradigms can be more thoroughly understood by considering the epistemological and ontological stances which are concerned with the nature of knowledge.

The key idea of positivism is that the social world exists externally, and that its properties should be measured through objective methods rather than being inferred subjectively through sensation, reflection or intuition (Easterby-Smith et al. 2002). Weber (2004) explained that positivists believe that reality is separate from the individual who observes it. They consider the subject (the researcher) and the object (the phenomena in the world that they are focused on) to be two separate, independent entities. Positivists try to build knowledge of a reality beyond the human mind. They believe that human experiences of the world reflect an objective, independent reality and that this reality provides the foundation for human knowledge (Weber 2004).

The key idea of critical realism is that reality is arranged in levels, and that scientific work must go beyond statements of regularity to an analysis of the mechanisms, processes and structures that account for the patterns that are observed (Denzin and Lincoln 2005a). Critical realism is logically opposed to positivism and relativism, yet shares the view with positivists that there is a world of events ‘out there’, events that are observable and independent of human consciousness (Denzin and Lincoln 2005a). Critical realists hold that knowledge about the world is socially constructed (Denzin and
Society is made up of feeling, thinking human beings, and their interpretations of the world must be studied (Denzin and Lincoln 2005a).

The key idea of interpretivism is that reality is not objective and exterior, but socially constructed with meanings given to it by people (Orlikowski and Baroudi 2002). Interpretivism thereby focuses on the way that people make sense of the world, especially through sharing experiences with others via the medium of language (Orlikowski and Baroudi 2002). The focus should be on what people are thinking and feeling, both individually and collectively, and attention should be paid to the ways that they communicate either verbally or non-verbally. One should try to understand and explain why people have different experiences, rather than spending time searching for external causes and fundamental laws to explain their behaviour. Human action arises from the sense that people make of different situations, rather than their direct response to external stimuli (Easterby-Smith et al. 2002). In a similar vein, Denzin and Lincoln (2005) highlighted that interpretive research is guided by beliefs and feelings regarding the world, and theories regarding how it should be understood and studied.

The interpretive paradigm is chosen as guidance for this research. The aim of interpretive research is to understand how members of a social group, through their participation in social processes, enact their particular realities and endow them with meaning. It also serves to show how these meanings, beliefs and intentions of the members help to constitute their social actions (Orlikowski and Baroudi 2002). In addition, the contribution of the interpretive research philosophy is that it reveals the underlying connections made among different parts of social reality, by examining the social rules and meanings that make social practices possible (Orlikowski and Baroudi 2002). Klein and Myers (1999) stated that interpretive methods in information systems are aimed at producing an understanding of the context of the system, and the processes whereby the information system influences and is influenced by this context. As this research takes an interpretive approach to exploring negotiation in the sourcing process
between partners in the e-procurement environment, for which little research exists, the research aims to explore and understand the phenomenon.

Negotiation in the sourcing process in e-procurement between partners involves many different actors, including those that are human and non-human. Each actor has their own role that needs to be fulfilled, in order to ensure that the related negotiation is a success. The role of human actors is to ensure that negotiation is successful based on the way that the actors interact with each other, which is typical of the relationship between the procurer and the supplier. In addition, social issues might also influence negotiation in the sourcing process between the partners in e-procurement. Thus, in order to identify how negotiation operates in an e-procurement network, the research gathers information from the relevant participants that are involved in the phenomenon being explored. While gathering the knowledge needed to explain the phenomena, there are several approaches that can be used to provide the evidence of its existence. Together the reality being explored and the knowledge abstracted will help to answer the main research question: How does negotiation operate in the sourcing process between partners in e-procurement networks? The next section explains the research design selected in order to help answer the research question.

4.3 Research Design

A research design is used for organising research activities including the collection and analysis of data (Easterby-Smith et al. 2002). It is important that the correct research design allows research questions to be correctly answered. Likewise, the research design must be aligned closely to the paradigm that is used in the research. This section discusses the research approaches that are used in conducting the research of this thesis. First, the quantitative, qualitative and mixed-method research approaches are discussed. Secondly, the preferred research method is discussed as a way of conducting the research. Thirdly, the data collection and the data analysis strategies are discussed. Finally, the
issues of reliability and validity are discussed, as a means of providing credibility to the findings of this research.

4.3.1 Quantitative, Qualitative and Mixed Method Research Approaches

A research method defines the type of research tools and techniques that may be used to collect empirical evidence (Creswell 2003). There are two basic types of data collection methods: quantitative methods and qualitative methods (Cavaye 1996). There is also a combination of quantitative and qualitative methods, called mixed methods (Tashakkori and Teddlie 2003).

Quantitative research was originally developed in the natural sciences in order to study natural phenomena (Lind et al. 2005). However, quantitative research is also well accepted in the social sciences (Myers and Avison 2002). The underlying philosophical assumptions of the researcher in quantitative research largely rely on a positivist approach (Neuman 2007). They emphasise the measurement and analysis of the causal relationships between variables (Denzin and Lincoln 2005). Quantitative research allows researchers to familiarise themselves with the problem or concept to be studied, and to perhaps generate hypotheses to be tested (Neuman 2007). The analysis of data in quantitative research is based on a statistical analysis that can be divided into two parts: descriptive analysis and inferential analysis (Creswell 2003). Descriptive analysis is the method of organising, summarising, and presenting data in an informative way, typically through statistics. The data can be organised into a frequency distribution, and various charts can be used to describe the data (Lind et al. 2005). Inferential analysis is the method used to determine something about a population on the basis of a sample (Lind et al. 2005).

In social science, qualitative research has been developed in order to enable researchers to study social and cultural phenomena (Myers and Avison 2002). Qualitative research is designed to help understand people and the social and cultural context within which they
live (Myers and Avison 2002). The qualitative researcher views social phenomena holistically (Creswell 2003). This means that qualitative research takes a broad, panoramic view of a matter, as opposed to a micro-analysis. Merriam (1995, p.52) described qualitative research as:

Clarifying and understanding phenomena and situations when operative variables cannot be identified ahead of time; finding creative or fresh approaches to looking at over-familiar problems; understanding how participants perceive their roles or tasks in an organisation; determining the history of a situation; and building theory, hypotheses, or generalisation.

The underlying philosophical assumptions of the researcher in qualitative research can be positivist, interpretive or critical, depending on the choice of the specific qualitative research method (Myers and Avison 2002). For instance, one qualitative research method is case study research, which can be positivist (Yin 2003), interpretive (Walsham 1993) or critical (Denzin and Lincoln 2005a). Qualitative research is fundamentally interpretive (Creswell 2003), which means that researchers can make an interpretation of the data (Creswell 2003) based on how participants interpret “constructs” (Johnson and Onwuegbuzie 2004). Creswell (2003) highlighted that qualitative research takes place in a natural setting. The researcher often goes to the site of the participant in order to conduct the research. Neuman (2007) pointed out that qualitative researchers often rely on interpretive or critical social science, follow a nonlinear research path, and that they speak a language of “cases and contexts”. Qualitative research also emphasises conducting detailed examinations of cases that arise within the natural flow of social life (Neuman 2007). Johnson and Onwuegbuzie (2004) explained that qualitative research is useful for studying a limited number of cases in-depth, and for providing individual case information.

A mixed method approach is the third choice for research design. The mixed method approach is defined as “the research focuses on collecting and analysing both quantitative and qualitative data in a single study” (Creswell 2003, p.210). The mixed method
approach has also been referred to as “quantitative and qualitative methods”, “multimethod” and “multimethodology” (Bazeley 2006; Hunter and Brewer 2003; Johnson and Onwuegbuzie 2007; Neuman 2007; Tashakkori and Teddlie 2003). Easterby-Smith et al. (2002) pointed out that the mixed method approach allows the research design and strategies to be offset by counter-balancing strengths from one method to another.

This research uses a qualitative method as its approach. The purpose of using the qualitative research approach is because it is effective in exploring a phenomenon that has not been studied before. There is a lack of research focusing on negotiation and e-procurement using the qualitative approach (Agndal 2007). Therefore, studying negotiation in e-procurement using a qualitative research adds a level of rich detail and nuance that illustrates or documents the existing knowledge of the phenomenon being explored, in this case negotiation, sourcing and e-procurement. In addition, by choosing the qualitative approach the researcher is trying to understand the social phenomenon from the perspectives of the actors or people involved in negotiation in the e-procurement environment, rather than simply explaining it from an outside perspective and thereby missing out on valuable depth and richness.

Negotiation in the sourcing process between partners in e-procurement is a complex phenomenon that is difficult to approach quantitatively, since the researcher is concerned with the opinions, experiences and feelings of individuals producing subjective data. Furthermore, the phenomenon being explored involves two different parties in the negotiation process. According to Hancock (1998), qualitative research is concerned with finding the answers to questions which begin with “why”, “how” and “in what way”. In short, the research outlined in this thesis is qualitative and exploratory in nature (Creswell 2003). Having discussed the interpretive paradigm adopted in this study, the following section discusses the case study approach used to conduct this research.
4.3.2 Case Study Research

This research uses the case study research methodology. Case study research is the most widely used qualitative research method in information systems research (Darke et al. 1998; Benbasat et al. 1987; Easterby-Smith et al. 2002; Stake 1995; Myers and Avison 2002). Case study research can be positivist, interpretive or critical, depending upon the underlying philosophical assumption of the researcher (Stake 1995). Since this research is guided by the interpretive paradigm, the interpretive case study research approach is applied (Walsham 1995). Walsham (1995) stated that the in-depth case study is a vehicle for interpretive investigation whereby the research involves frequent visits to the field site over an extended period of time. As the present research explores negotiation in the sourcing process between partners in an e-procurement environment, a qualitative case study is utilised instead of a quantitative case study. The qualitative case study emphasises episodes of nuance, the sequence of events within a particular context, and the individuality of those who take part (Stake 1995). This means that case study research can be a method used to study a contemporary phenomenon associated with an individual or an institution in a unique and natural setting, or a situation in as much detail as possible (Klein and Myers 1999).

Benbasat et al. (1987, p.370) defined case study research in studies of information systems as an examination of “a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities (people, groups or organisations)”. Stake (1995) highlighted that case study research is defined by the researcher’s interest in an individual case, and not by the methods of inquiry used. Case study research can deal with single or multiple case studies (Harling 2002), and Stake (1995) classified single case studies as intrinsic or instrumental. The intrinsic case study is conducted in order to learn about a unique phenomenon, which the study focuses on (Stake 1995). The instrumental case study is conducted to provide a general understanding of a phenomenon using a particular case as an example (Stake 1995). Furthermore, Stake explained that the collective case study is conducted in order to
provide a general understanding using a number of instrumental case studies that either occur on the same site or come from multiple sites. The central concept of case study research is the decision to include one or several cases in the research (Benbast et al. 1987). Yin (2003) highlighted that an analytic conclusion independently arising from multiple case studies will be more powerful than that coming from a single case study. Herriot and Firestone (1983) highlighted that the evidence from multiple cases is often considered more convincing, and the overall study is therefore regarded as being more robust.

Based on the above rationalisation, instrumental case study research and a multiple case study approach from multiple sites can be utilised. To investigate negotiation in the sourcing process between partners in the e-procurement environment in the present research, case studies were conducted with four organisations from Melbourne, Australia. Furthermore, as this research seeks to identify the social issues that might influence negotiation in the sourcing process between partners in e-procurement, the case study approach is the most appropriate in this regard, because the case method lends itself to early, exploratory investigations where the variables are still unknown and the studied phenomena are not well understood (Meredith and Vineyard 1998). The notion of comparison in qualitative research is built upon developing understanding rather than measuring difference (Ritchie and Lewis 2003). Furthermore, taking a comparative case study approach will allow an explanation to be developed for one case study and then replicated in a second similar case (Cunningham 1997). The next section explains in detail the data collection strategy, which involves a selection of cases and participants, the data gathering processes, and the data analysis strategy.

4.3.3 Data Collection Strategy

This section begins with an overview of the process by which cases were selected for this research, and the manner in which individuals were invited to participate. This is
followed by a discussion on the selection of participants for this study. Finally, the data gathering process for this study is explained.

### 4.3.3.1 Selection of Case Studies

The process of selecting a case study is related to the sampling techniques used through the qualitative or quantitative approaches. Neuman (2007) stated that for the qualitative sampling approach, non-random or non-probability sampling should be used instead of random or probability sampling. Non-probability sampling means that the researcher rarely determines the sample size in advance, and has limited knowledge regarding the larger group or population from which the sample was taken (Neuman 2007). One of the types of non-probability samples is purposive, or judgemental, sampling (Neuman 2007; Curtis et al. 2000). Purposive sampling is used in situations in which an expert uses judgment to select cases with a specific purpose in mind. Furthermore, purposive sampling is often used in exploratory research (Neuman 2007). Neuman claimed that purposive sampling is appropriate in the following three situations:

1. A researcher uses purposive sampling to select unique cases that are especially informative;
2. A researcher uses purposive sampling to select members of a difficult to reach, specialised population and
3. A researcher uses purposive sampling to identify particular types of cases for in-depth investigation.

This research used purposive sampling in selecting the four case studies, as the three situations outlined above matched the research scope. The use of e-procurement as a mechanism in procuring goods or services is a relatively recent phenomenon in the private sector (IBM 2002) and in the public sector (Moon 2003; Croom and Jones 2007). The use of e-procurement in private sector firms, in order to improve profitability and operational effectiveness, has provided motivation for the public sector to implement e-
procurement (Stein and Hawking 2003). The transformation from the traditional procurement process to an e-procurement process can deliver benefits from the operational level to the strategic level (Attaran and Attaran 2002). For these reasons, qualitative research with an inductive approach is used in examining the use of e-procurement by procuring and supplying organisations in the public and private sectors as a mechanism in negotiation during the sourcing process.

The procuring organisations studied in this research were chosen based on the criterion of the organisations having used e-procurement as a mechanism in procuring goods or services. The criteria of using e-procurement as a mechanism in procuring goods or services were identified by the researcher via two methods. In one case the researcher phoned the potential organisations and made enquiries about the system used in the organisation, and in the second case the researcher gathered information by searching their company websites, as well as identifying potential links, recommendations or associations via colleagues.

Procuring organisations were asked to identify suppliers that had participated in e-procurement, so that the matched perspectives of procuring and supplying organisations could be identified. The procuring organisations that participated in this research represented a diverse set of industries, including manufacturing, aviation and education. The researcher conducted two case studies in the public sector at two different universities in Australia. Two further case studies that represented the private sector were conducted at a car manufacturing company and an aircraft company in Australia. Pseudonyms for the organisations are used in this thesis. Table 4.2 presents a summary of the case studies conducted in this research. The following section further discusses the selection of participants for the two case studies in the public sector and the two case studies in the private sector.
Table 4.2: Case studies conducted for negotiation in the sourcing process in e-procurement

<table>
<thead>
<tr>
<th>Case study</th>
<th>Type of sector</th>
<th>Name of organisation(pseudonym)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case study 1</td>
<td>Public Sector</td>
<td>Multimedia University</td>
</tr>
<tr>
<td>Case Study 2</td>
<td>Public Sector</td>
<td>Technology University</td>
</tr>
<tr>
<td>Case Study 3</td>
<td>Private Sector</td>
<td>Car Manufacturing Company (CMC)</td>
</tr>
<tr>
<td>Case Study 4</td>
<td>Private Sector</td>
<td>Aviation Company (AVC)</td>
</tr>
</tbody>
</table>

4.3.3.2 Selection of Research Participants

The selection of participants for this study commenced with the researcher conducting a pilot study at Multimedia University as a buying organisation. The information garnered through the pilot study was assessed with the support of the Finance Managers from the School of Computing and School of Commerce. The purpose of conducting this pilot study was for two purposes. Firstly, the pilot study identified the relevant informants involved in negotiation in e-procurement, for the purpose of data collection. The researcher identified the relevant informants by asking them whether they were using an e-procurement system as a method for procuring goods and services and whether they were involved in the negotiation process. Next, the researcher set appointments with the participants for interviews. During the interview sessions, the researcher asked the participants for their opinion regarding the e-procurement system that they used at the workplace and whether they were involved in the negotiation process. The participants provided valuable information regarding the accurate informants who should be interviewed by the researcher for the next stage of data collection. The subsequent interviews provided accurate data because the participants were more reliable.

Secondly, the pilot study reviewed and crafted the initial questions prepared for the interviews. With the set of interview questions prepared for the Finance Managers from the School of Computing and School of Commerce, the researcher altered the interview questions based on the participants’ answers. If the participants could not answer the
question properly, two possibilities were considered: first, the participant was not an appropriate participant for this study; second, the prepared question might not be clear or may be misunderstood by the participant. Thus, by conducting the pilot test, the researcher could identify the accurate participants for this study and at the same time altered the interview questions for improved clarity. The information gathered through the pilot study helped to finalise the researcher’s interview schedule. Table 4.1 presents a summary of the interview schedule following the pilot study.

Table 4.1: Interview schedule gathered through pilot study

<table>
<thead>
<tr>
<th>Participant</th>
<th>Group</th>
<th>Criteria – Accurate Informant</th>
<th>Action 2 – Accurate Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Manager</td>
<td>School of Commerce</td>
<td>Used e-procurement system</td>
<td>Proper answer for the use of e-procurement section</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Indirectly involved with suppliers</td>
<td>Cannot answer properly for information involved in procurement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not directly involved in negotiation process</td>
<td>Cannot answer properly for the section on social issues and negotiation process</td>
</tr>
</tbody>
</table>
Based on the criteria set-up during the pilot test, the researcher managed to identify the accurate participants for this study. Each participant selected for interview must have used e-procurement as a technique in procuring goods and services in their respective organisation. In addition, the participants selected must have had involvement in the negotiation process. Participants must also have been directly involved with suppliers in the negotiation process via the e-procurement system. In addition, they must have been responsible for decision-making regarding procurement matters. Table 4.3 presents a

<table>
<thead>
<tr>
<th>Participant</th>
<th>Group</th>
<th>Criteria – Accurate Informant</th>
<th>Action 2 – Accurate Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Manager</td>
<td>School of Computing</td>
<td>Used e-procurement system&lt;br&gt;Indirectly involved with suppliers&lt;br&gt;Not directly involved in negotiation process</td>
<td>Proper answer for the use of e-procurement section&lt;br&gt;Cannot answer properly for information involved in procurement&lt;br&gt;Cannot answer properly for the section on social issues and negotiation process</td>
</tr>
<tr>
<td>Procurement Manager</td>
<td>Procurement Division</td>
<td>Used e-procurement system&lt;br&gt;Involved directly with supplier&lt;br&gt;Involved in negotiation process&lt;br&gt;Made decisions on procurement issues</td>
<td>Can answer properly e-procurement section&lt;br&gt;Can answer properly negotiation and social issues section&lt;br&gt;Can answer properly e-procurement process</td>
</tr>
</tbody>
</table>
summary of the total number of participants involved in this study, categorised by their role in the relationship (either as a procurer or a supplier).

Table 4.3: Number of participants involved in this study

<table>
<thead>
<tr>
<th>Sector</th>
<th>Case Study</th>
<th>Participants</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Procurer</td>
<td>Supplier</td>
</tr>
<tr>
<td>Public Sector</td>
<td>Multimedia University</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Technology University</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Car Manufacturing Company</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Aviation Company</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total number of respondents</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the public sector cases, the researcher established direct contact with a representative from the Procurement Department. The Purchasing Manager is typically the primary contact person between the firm and the supply partner, through whom the initial scope and nature of the partnership is negotiated and implemented (Spekman et al. 1994). An email was sent to explain the purpose of the study, with the Plain Language Statement and interview questions attached (Appendix A).

Once the participants replied with agreement to participate in this study, a time and location was established where they would be met and interviewed. During the interviews, the researcher received assistance from the interviewee, in order to identify and arrange interviews with participants from the organisation’s suppliers, specifically those individuals directly involved in negotiations with the interviewee. The researcher managed to obtain four representatives involved in the negotiation process at Multimedia University, which included two representatives from the procurer side and two representatives from the supplier side. For Technology University, the researcher
managed to obtain one representative from the procurer side and one representative from the supplier side. This is because there was one person involved in management from the procurer side who could potentially take part in an interview, as they were the main person involved in negotiating with suppliers.

For the private sector case studies, the researcher established direct contact with the interview subjects through the help of colleagues who had previously worked at the companies. For the first case study at the Car Manufacturing Company, the researcher contacted the potential interview participants via phone, and explained the purpose of the study. Later, the researcher sent the Plain Language Statement and interview questions via email to the potential participants (Appendix A). A meeting was arranged, and during the subsequent interview the researcher inquired about obtaining other participants from the buying organisation who may be willing to participate. However, due to the workload of other staff from the Car Manufacturing Company, no further procuring officers could participate in this study. The researcher also asked for assistance in identifying a participant from the organisation’s suppliers who had been involved directly in negotiation with the Procurement Manager (procurer). The researcher managed to contact one supplier who volunteered their time for an interview.

For the second case study at AVC, the initial person contacted was the Logistics Manager who could not provide the information needed. However, the Logistics Manager voluntarily assisted the researcher to contact the Procurement Manager at AVC, and the Logistics Manager also joined the interview to provide his opinions in regard to the issues. The researcher inquired about the suppliers of AVC, and the Procurement Manager subsequently contacted the supplier on behalf of the researcher and arranged an appointment. Two representatives from the supplying company were interviewed. Table 4.4 presents the details of the participants involved in the research. Further details about the participants are provided in the next section on the data-gathering process.
### Table 4.4: Details of research participants

<table>
<thead>
<tr>
<th>Sector</th>
<th>Name of organisation</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Procurer</strong></td>
</tr>
<tr>
<td><strong>Public Sector</strong></td>
<td>Multimedia University</td>
<td>Director of Strategic Sourcing and Procurement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procurement Manager</td>
</tr>
<tr>
<td></td>
<td>Technology University</td>
<td>Procurement Manager</td>
</tr>
<tr>
<td><strong>Private Sector</strong></td>
<td>Car Manufacturing Company</td>
<td>Procurement Manager</td>
</tr>
<tr>
<td></td>
<td>Aviation Company</td>
<td>Procurement Manager, Logistic Manager</td>
</tr>
</tbody>
</table>

The plausibility of the data utilised in this research was established through the selection of relevant participants for interviews. These participants were selected after considering what information they could offer the researcher in regard to addressing the overall research question. The distribution of the participants as either procurers or suppliers was considered sufficient for triangulation in providing an accurate story of negotiation in the sourcing process in the respective e-procurement environment, which is described in detail in Chapters 5, 6, 7 and 8. The distribution of participants was considered sufficient because the participants –as either procurers or suppliers– provided a similar answer after several interviews were conducted among them.

**4.3.3.3 Data Gathering Process**

Data collection in case study research relies on two principles, namely, obtaining the description of the data, and interpretation of the collected data by other parties (Stake 1995). The case being studied will not be seen the same way by everyone, and therefore qualitative researchers take pride in discovering and portraying multiple views of the
cases they have studied (Stake 1995). The interview is the main approach taken to obtaining multiple realities (Stake 1995). Easterby-Smith et al. (2002) highlighted that there are two types of interviews, namely, face-to-face interviews and focus group interviews. Easterby-Smith et al. claimed that the most fundamental and effective of all qualitative methods is that of in-depth interviewing. Therefore, the technique used for data collection in the present research was face-to-face interviews (Creswell 2003; Neuman 2007; Easterby-Smith et al. 2002). Data collection occurred during the spring of 2009 (pilot test), and from the spring of 2010 until the end of 2011.

Before the face-to-face interviews were conducted, the researcher prepared the interview questions. The interview questions were prepared based on the main research question posed in this study: How does negotiation operate in the sourcing process between partners in e-procurement? The interview questions were structured in three sections: the profile of interviewee; the e-procurement process; and the negotiation process in e-procurement environment. The details of these sections can be seen in Appendix B. Several processes were undertaken to ensure the reliability of the prepared questions. First, the researcher prepared the questions based on the main research question. Second, the researcher’s supervisor checked the prepared questions and made several changes. Third, the questions were modified after the pilot test was conducted. Fourth, the interview questions were changed during the first interview session. The purpose of this process was to ensure that the interview questions were as clear and accurate as possible.

A semi-structured interview was used to capture the data. Sekaran (2003) highlighted that the objective of semi-structured interviews is to bring preliminary issues to the surface, so that the researcher can determine what variables need further in-depth investigation. In the semi-structured interview, respondents are encouraged to offer their own definitions of particular activities (Silverman 2001). Thus, in the case of this research, all the interviewees were encouraged to give their own opinions regarding the influence of social issues on negotiation in e-procurement. At the beginning of each interview, the researcher gave the respondent a copy of the project summary, specifically
the Plain Language Statement and the interview questions (see Appendices A and B), and asked them to sign a form providing their informed consent to the interview, as well as their consent to the taping of the interview. The interviewer recorded the conversations, with the permission of the interviewee, and made written notes during the interview. The interviews took approximately 45 to 60 minutes. All interviews were then transcribed.

4.3.4 Data Analysis Strategy

The data collected from the face-to-face interviews was analysed using thematic analysis. Two forms of data analysis were employed in the course of the research, namely, within-case analysis and cross-case analysis. Within-case analysis included the analysis of transcripts from the face-to-face interviews, while cross-case analysis included analysis reflecting upon the final lists of social issues influencing negotiation in e-procurement in the public and private sectors (Boyatzis 1998).

For within-case analysis, thematic analysis was employed. Before the thematic analysis technique was used to analyse the data, the researcher transcribed all the interviews utilising the tape recordings and accompanying written notes. After all the conversations were transcribed, the researcher used steps in thematic analysis to analyse the data (Boyatzis 1998; Joffe and Yardley 2004). Thematic analysis is a process to be used with qualitative information (Boyatzis 1998). Boyatzis (1998, p.4) defined thematic analysis as:

A process for encoding qualitative information. The encoding requires an explicit ‘code’. This may be a list of themes; a complex model with the themes, indicators, and qualification that are causally related, or something in between these two forms. A theme is a pattern found in the information that at minimum describes and organises the possible observations and at maximum interprets aspects of phenomenon.

Thematic analysis is described by Boyatzis (1998) as a means of enabling scholars, observers and practitioners to use a wide variety of types of information in a systematic
manner. This approach increases the accuracy or sensitivity of the scholars, observers and practitioners in understanding and interpreting observations about people, events, situations and organisations. Thematic analysis is similar to content analysis, but it also involves the more explicit qualitative analysis of the meaning of data within a particular context. Thematic analysis is useful for systematically identifying and describing features of qualitative data, specifically features that recur across many participants (Joffe and Yardley 2004). The identification of themes from the phenomenon being investigated can be undertaken at two levels, namely, the manifest level and the latent level (Boyatzis 1998). Thematic analysis enables the researcher to use both analytical levels at the same time (Boyatzis 1998):

1) The manifest analysis can be considered the analysis of visible or apparent content, or a trend which is directly observable in the information. The researcher can describe the sentences and phrases in which the respondents use it. In addition, the researcher can compare the use of the word to that of others in the respondents social group, social class or culture;

2) The latent analysis looks at the underlying aspects of the phenomenon under observation. This means to explain or understand the meaning of the word to the person, or the meaning of the word as it was used in a particular sentence or moment. The researcher can provide the meaning of the word through a definition of the word via the perspective of the social group.

In the present research, an inductive or raw-data driven approach was used to develop the thematic code, which meant that the researcher worked directly with the raw information gathered from the interviews with all the participants involved. For the purpose of inductively developing a thematic code, the researcher used the following three stages proposed by Boyatzis (1998):

Stage I – Deciding on sampling and design issues
Selecting sub-samples
Stage II – Reducing the raw information
Identifying themes within sub-samples
Comparing themes across sub-samples
Creating a code
Determining the reliability of the code

Stage III Applying the code to the remaining raw information
Determining validity
Interpreting results

In stage one of this research, as explained above (Section 4.3.3.1), the researcher used purposive sampling to select the interview subjects. In stage two, the researcher developed the coding. While developing the coding, the researcher paraphrased and summarised each piece of information, utilising an in-depth review of the transcript from each unit of research, ensuring close contact and familiarity with the information contained. For example, the interview transcript from the procurer side of Multimedia University, as part of the public sector, was reviewed in order to search for the social issues influencing negotiation in e-procurement. At first, the researcher identified themes within the sub-samples. For instance, the themes were identified individually from the interviewees such as the Director of Strategic Sourcing and Procurement and the Procurement Manager, as procurers from the public sector. Then the researcher compared the themes across the samples identified from both the Director of Strategic Sourcing and Procurement and the Procurement Manager, in order to identify similarities and differences in the themes.

In identifying the themes that related to the social issues, the researcher had identified several other factors that can influence negotiation in e-procurement environment such as the products procured, procurement policy and other related organizations involved with procuring organization. The factor of products procured had been identified via the interview questions that had been set-up. In regards to the procurement policy, the researcher identified it from the secondary data provided via the organization’s website
and the pamphlets provided by the interviewee. Other organizations involved in negotiation process were another factors influence negotiation in e-procurement had been identified from the interview with interviewee. Most of the interviewees were mentioning about other organization’s name that related to them in procuring goods rather than only the selected supplier interviewed by the researcher. The process of identifying the factors influence negotiation in e-procurement mentioned above was straightforward because the sources were direct. On the other hand the processes of identifying themes related to the social issues were complex.

An example of how the researcher created the themes related to the social issues influencing negotiation in e-procurement is presented in Table 4.5, and the details of the themes created can be reviewed in Appendix C. Table 4.5 shows one of the categories or themes created for the social issues that influence negotiation in e-procurement at Multimedia University from the procurer perspective. An example of this category or theme is the relationship created between the procurer and supplier.

Table 4.5: Coding process for the social issues that influence negotiation in e-procurement

<table>
<thead>
<tr>
<th>Case One – Multimedia University Public sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee: Procurement Manager (MUP1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category/Theme</th>
<th>Term in category</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship with supplier</td>
<td>Long-term relationships</td>
<td>“We went to tender some time ago and we had selected preferred suppliers for print….They also provide us with long function devices” (PG3)</td>
</tr>
<tr>
<td>Relationship with supplier</td>
<td>Maintaining market or marketplace relationships</td>
<td>“You don’t want to have a temporary relationship with your supplier because in the long terms you may have a good relationship with suppliers even you drop the suppliers for that period, you still want to maintain good relationship with previous supplier’s market because how you treat their market can also improve the service such as get a better price in&quot;</td>
</tr>
<tr>
<td>Relationship Type</td>
<td>Statement</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>Managing relationship</td>
<td>“There is somebody in this university that requires to manage a face-to-face relationship with current supplier, if the procurement department decide to change to a new supplier, the negotiation process with the new one will run smoothly because there is a responsible person exist” (PG7)</td>
<td></td>
</tr>
<tr>
<td>Creating relationship or building relationship</td>
<td>“You need to create the relationship and you need to share information and do a lot of things” (PG9)</td>
<td></td>
</tr>
</tbody>
</table>

After identifying the themes from Multimedia University from the procurer perspective, the researcher identified the themes from the supplier perspective. Once this was completed, in stage three, the researcher applied all the themes identified from the procurer and suppliers at Multimedia University as a public sector organisation to the procurer and supplier at Technology University, Car Manufacturing Company and Aviation Company. This was to ensure that the data analysis to find social issues influencing negotiation in e-procurement was saturated. The researcher proceeded with the cross-case analysis once the within-case analysis was completed.

Cross-case analysis in this research was used to identify and investigate similarities and differences in the identified social issues influencing negotiation in the sourcing process in e-procurement. Specifically, cross-case analysis considered the similarities and differences in social issues influencing negotiation in e-procurement from the perspective of procurers and suppliers in the public and private sectors. Likewise, the analysis considered the similarities and differences in how e-procurement is used in the public and private sectors, the impact of the social issues on negotiation in the sourcing process in e-procurement, and the impact of social issues on negotiation in the sourcing process in e-procurement from an ANT perspective.

The details of the social issues influencing negotiation in e-procurement within the public and private sectors for the within-case study analysis are described in Chapters 5, 6, 7 and
and the cross-case analysis is described in Chapter 9. In order to ensure the data analysis prepared by the researcher was valid and reliable, the following section explains the reliability and validity issues for this research.

4.4 Reliability and Validity Issues

4.4.1 Triangulation

Triangulation is defined as the combination of at least two or more theoretical perspectives, methodological approaches, data sources, investigators or data analysis methods (Thurmond 2001). Easterby-Smith et al. (2002) highlighted that there are four different categories of triangulation in social research, namely, theoretical, data, investigator and methodological triangulation, as follows:

1. Theoretical triangulation involves borrowing models from one discipline and using them to explain situations in another discipline;
2. Data triangulation refers to research where data is collected over different timeframes, or from different sources;
3. Triangulation by investigators is where different people collect data on the same situation and data, and the results are then compared;
4. Methodological triangulation refers to using both quantitative and qualitative methods for data collection. For instance, using questionnaires, interviews, telephone surveys and field studies in collecting data.

The reliability and validity test is important in research as it ensures that the data collection is valid, and that a fair and accurate representation of the population is provided. Merriam (1995) highlighted that in qualitative research, rigor is a valid concern. Qualitative researchers employ different means of persuading the reader that a study is trustworthy. Qualitative research persuades the reader through its classical strength of a concrete depiction of detail, portrayal of process in an active mode, and attention to the perspectives of the study (Merriam 1995).
4.4.1.1 Reliability in Qualitative Research

Reliability in field research depends on a researcher’s insight, awareness, suspicions and questions (Neuman 2007). In addition, the reliability of qualitative research is dependent on what the respondents tell the researcher. This makes the credibility of the respondents and their statements part of the reliability. Subjectivity and context are also taken into account when the researcher evaluates credibility (Neuman 2007). Merriam (1995) pointed out that it has never been easy to express reliability in social science, because human behaviour is never static. However, in qualitative research, reliability is concerned with ensuring that the results of a study are consistent with the data collected (Merriam 1995). Therefore, to help ensure the reliability of the findings of this research, the researcher conducted the study at different organisations based in the public and private sectors. In addition, the inclusion of a number of respondents involved from the procurer and supplier side for each sector would ensure that the answers sought by the researcher were reliable. This is because different respondents would be likely to give different opinions when identifying the social issues that influence negotiation in e-procurement.

This research used data triangulation whereby the data was collected from different sources, in order to triangulate the findings (Easterby-Smith et al. 2002). Firstly, interviews were conducted between the two different parties involved in the negotiation process in an e-procurement network (namely, procurers and suppliers). These two groups were chosen in order to obtain the real-life situations on how negotiation operates between these two parties in e-procurement. Secondly, the researcher conducted the interviews at different organisations including those in the public and private sectors. The researcher was motivated to conduct interviews with organisations from the two different sectors due to the fact that the use of e-procurement in both the public and private sectors will lead to organisations improving the effectiveness and profitability of their procurement operations (Hardy and William 2007).
4.4.1.2 Validity in Qualitative Research

There are two types of validity for qualitative research: internal validity and external validity (Merriam 1995). The test of the internal validity for this research was conducted through member checks. In this case the researcher sent the interview transcripts, together with the coding and the interpretation of the data, to the interviewees. This ensured the plausibility of the interpretation of the material. The researcher’s supervisor also checked the data findings in order to ensure the plausibility of the interpretation of data. The external validity of this research was ensured through the use of multiple cases; two came from the public sector and two from the private sector. This allows the research results to be applied to a greater range of other similar situations, although the goal of qualitative research is to understand the particular phenomenon in-depth. Furthermore, this research provides enough information or descriptions of the phenomenon under study.

4.5 Summary

Interpretive qualitative research was used to conduct this research. The purpose of using this approach as a research design was to explore, explain and describe the phenomenon of interest, which is negotiation in the sourcing process between partners in e-procurement, in both the public and the private sector. The main interest of this research is to find the social issues that influence negotiation in the e-procurement environment, and the qualitative approach is designed to enhance our understanding of people and the social and cultural context in which they live (Myers and Avison 2002). Thus it was considered that the use of qualitative research as the approach for conducting this research would enable the researcher to answer the questions posed in Chapter 1 (Section 1.4).
Multiple case studies in Melbourne, Australia, were chosen for this study. Twelve respondents were identified, including both procurers and suppliers. The respondents included Directors of Strategic Sourcing and Procurement, Procurement Managers, Logistics Managers and General Managers. The data collection approaches and protocols utilised for conducting the interviews have been specified and discussed. The data analysis approach has been presented, including its use of the inductive thematic analysis of raw data in order to identify the categories or themes within the four case studies. Finally, matters of validity and reliability were discussed. Chapters 5 and 6 discuss the findings based on each case focused on the public sector. Chapters 7 and 8 discuss the findings based on each case focused on the private sector. Chapter 9 discusses the findings from this study in the context of the existing literature.
Chapter 5 – The Multimedia University Case Study

5.1 Introduction

This chapter analyses the data collected from a public sector organisation and two of its trading partners who negotiate as part of the sourcing process within their e-procurement network. The chapter commences with a background description of the case study. It then continues with an explanation of the findings gathered from the interviews regarding the social issues that influence negotiation in the e-procurement environment from both the procurer’s and trading partners’ perspectives. Finally, an analysis using actor-network theory as a sanitising device is applied to explore the phenomenon of negotiation as part of the sourcing process in this e-procurement environment.

5.2 Case Study Background

5.2.1 Organisational Structure of the Strategic Sourcing and Procurement Unit at the Multimedia University

Multimedia University is located in Melbourne, Australia, and is organised into three academic colleges and eight service portfolios. One of the service portfolios is Resources. The purpose of the Resources portfolio at Multimedia University is to ensure both effective and rigorous planning, and the appropriate measurement and reporting of financial outcomes in order to achieve the university’s strategies in a controlled manner. There are seven groups organised under the Resources portfolio, which are Financial Services, IT Services, Human Resources, Internal Audit and Risk Management, Legal Services, Property Services, and University Information and Web Services. One of the workgroups within Financial Services is the Strategic Sourcing and Procurement Unit, which provides services to all staff and divisions of the university. The role of this unit is
to achieve substantial savings through the review of sourcing and procurement options across the university, based on the expected high levels of expenditure on goods and services (AU$140 million in 2012).

There are four specific activities that assist Multimedia University to acquire the best products and services at an effective cost. These include the utilisation of strategic sourcing and procurement services, a reliance on the university-approved suppliers, the efficient advertising of tenders, and the utilisation of fair-trade. Figure 5.1 depicts the organisational units in Multimedia University, with the Strategic Sourcing and Procurement Unit highlighted in order to indicate its position within the university.
Figure 5.1: The organisational chart of Multimedia University (in particular the Strategic Sourcing and Procurement Unit) (Source: Website Multimedia 2009)
The services provided by the Strategic Sourcing and Procurement Unit vary. This unit assists Multimedia University in procuring the best products or services at the lowest possible cost. The services provided include e-commerce, the development of supply strategies, the dissemination of knowledge regarding supply markets, relationship management, supply chain management of strategic alliances and partnerships, and the identification and evaluation of sources. Other services include supplier price and cost analysis, the calculation of the total cost of ownership, procurement and supply negotiations, the administration and management of contracts and sub-contracts, quality assurance, value analysis, forecasting, budgets and operations, supplier evaluation, the impact of capital on Multimedia University, and the promotion of greener or more sustainable procurement strategies. All of these services are used to enable Multimedia University to gain more benefits in both the short-term and long-term.

5.2.2 Goods and Services Procured at Multimedia University

Multimedia University has thousands of suppliers, due to the specialised needs of the various schools and units within the university. For this reason, Multimedia University aggregates and centralises the contracts for key commodities including goods and services such as property and building management-related suppliers, ICT suppliers, stationery suppliers and other similar parties. Examples of the typical goods procured include office supplies, furniture, computers, merchandise, printers and photocopiers. Examples of the services procured include graduation services, vehicle leasing, accommodation, travel management and computer software. In the data collected in the present research, the goods and services came from two major suppliers, called Power Print and Express Creative. Both companies are publicly listed. Table 5.1 summarises the typical products and services procured from Power Print and Express Creative, respectively.
Power Print and Express Creative were recognised as major suppliers of Multimedia University and have maintained a long-term trading relationship with the university. Express Creative had been a supplier for Multimedia for approximately 20 years, and Power Print had been a supplier for almost 30 years. With the increased use of technology in printing devices in Multimedia University over the past five years, Power Print also provided and managed print services for the university. A unit called Print Services operated at Multimedia University under the supervision of Power Print staff.

This case study examines the responsibilities of the participants as per their department or unit. Table 5.2 outlines the roles and responsibilities of the relevant participants.
Table 5.2: Description of the roles and responsibilities of the participants involved in the case study

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Group</th>
<th>Organisation</th>
<th>Job Description</th>
</tr>
</thead>
</table>
| Director of Procurement and Strategic Sourcing| Procurer    | Multimedia University    | • Manages strategic sourcing and procurement at Multimedia
• Rationalises suppliers
• Negotiates and establishes major Multimedia group contracts based on combined purchasing power
• Using and leveraging the group’s contracts |
| Procurement Manager                           | Procurer    | Multimedia University    | • Manages full public tenders, selecting tenders, processing quotes and undertaking similar activities in order to procure goods and services
• Handles commodity management
• Handles supplier management, including issues management
• Supports local level activities in all of the above areas |
| Site Operations Manager                       | Supplier    | Power Print              | • Manages relationships with a number of people in the university, from students to staff at the managerial level
• Monitors the health of machines, services, and the students’ copy centres and libraries
• Handles operational issues such as human resources and manufacturing processes |
| National and Strategic Account Manager        | Supplier    | Express Creative         | • Maintains the professional relationship with Multimedia University
• Ensures all services provided to Multimedia University are properly managed
• Manages all the agreements and services Express Creative has with Multimedia University |

The respective roles and responsibilities of the procurers and suppliers from Multimedia University, Power Print and Express Creative involved in the case study were discussed in the interviews. The main roles and responsibilities of the procurers in the e-procurement environment were to manage the contracts with the suppliers through negotiation, and to manage the business relationships. In a similar vein, the suppliers’
roles and responsibilities in e-procurement were to manage and maintain the business relationships with Multimedia University, and to provide services based on contractual agreements. The following section discusses the use of e-procurement at Multimedia University.

5.2.3 E-Procurement at Multimedia University

Procurement processes at Multimedia University have been structured around central contracts or commodities that are managed centrally by the Strategic Sourcing and Procurement Unit. In addition, there are two key areas that work closely with the Strategic Sourcing and Procurement Unit, namely, Property Services, which consists of Facilities Services (operational) and Projects (capital), and IT Services. These key areas are the major spending areas at Multimedia University. The procurement process at Multimedia University follows a one-tender policy that is to ensure procurement policies and procedures are based on value for money, and that they involve open and fair competition, accountability, risk management, probity and transparency (Multimedia 2009).

The policy applies to all expenditure on goods and services, building, infrastructure and equipment including consultancy services. The quotation and tender process must be used to support procurement decisions, so as to form part of the standard purchasing process. The policy on goods and services, building, infrastructure and equipment is outlined in Table 5.3.
Table 5.3: Procurement policy of Multimedia University (Source: Website Multimedia 2009)

<table>
<thead>
<tr>
<th>Policy</th>
<th>Where the amount to be spent is estimated to be</th>
<th>Minimum quotation/tender requirement, unless an exemption is to be granted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goods and services</td>
<td>$2,500 or less</td>
<td>One verbal or written quote</td>
</tr>
<tr>
<td></td>
<td>Between $2,500 and $25,000</td>
<td>One written quote</td>
</tr>
<tr>
<td></td>
<td>Between $25,000 and $150,000</td>
<td>Three written quotes, or the reasons for not obtaining the required minimum number of quotes, must be recorded on file</td>
</tr>
<tr>
<td></td>
<td>More than $150,000</td>
<td>Open tendering must take place</td>
</tr>
<tr>
<td>Building, infrastructure and equipment</td>
<td>$25,000 or less</td>
<td>One written tender/proposal which is consistent with market prices</td>
</tr>
<tr>
<td></td>
<td>Between $25,000 and $200,000</td>
<td>Three written tenders/proposal for price quotations against the scope of works</td>
</tr>
<tr>
<td></td>
<td>More than $200,000</td>
<td>1) Tenders must be called from at least three pre-qualified contractors/suppliers or 2) Tenders must be called by public advertisement</td>
</tr>
<tr>
<td>Consultancy services for building, infrastructure and equipment</td>
<td>$25,000 or less</td>
<td>One written quote/proposal which is consistent with current market prices</td>
</tr>
<tr>
<td></td>
<td>Between $25,000 and $150,000</td>
<td>Three written quotes/proposals for price quotations against the scope of work</td>
</tr>
<tr>
<td></td>
<td>More than $150,000</td>
<td>1) Tenders must be called from at least three pre-qualified consultants or 2) Tenders must be called by public advertisement</td>
</tr>
</tbody>
</table>

In addition, there are rules and regulations that need to be followed when purchases are to be made from approved suppliers. The provisions are:

- Approved suppliers are to be subject to periodic review/market testing;
- The period of contract will depend upon the market volatility of the goods or services being purchased; otherwise the Multimedia University guideline is for three years with two further one-year extensions, or the provision of a maximum five year contract;
The quote and tender requirements outlined in the policy apply to the negotiation and periodic renewal of the approved supplier agreement; and

- If there is no rule of use in relation to sourcing the goods or services from approved suppliers, the quote and tender requirements outlined in the policy apply.

E-procurement was introduced to the university in 2004. While implementing e-procurement, Multimedia University has faced several problems. The issues faced in implementing e-procurement were internal rather than external. One of the internal problems was accessing the right technology. For instance, Multimedia University initially implemented ‘Open Windows’ to facilitate e-procurement. Open Windows is procurement software used by the Procurement Manager at the Purchasing Department. The university has since improved and enhanced the system by utilising a full end-to-end system support for the entire procurement cycle, from the e-tender through to a contract management facility via software.

E-tendering is one of the e-procurement devices used by the university, and it enables the university to procure goods and services through the process of documenting the tender, setting up the tender, posting the tender and submitting the tender. All four processes are undertaken electronically. The submission of the tender from potential suppliers to the university is done electronically, and this expedites the supplier selection process. E-tendering plays a primary role in negotiation for simple commodities where price may be the only differentiator. However, for more complex goods and services, e-tendering may only act as one component of the process, and negotiation may happen more directly through face-to-face negotiation. The e-tendering system enables Multimedia University and its potential suppliers to access tender documents and submit tenders electronically. If additional information from the supplier needs to be added after the relevant tender is posted on the website, in accordance with the university’s needs, the Strategic Sourcing and Procurement Unit will share any new information with the suppliers participating in the tender through electronic means. The e-tendering system assists the Strategic
Sourcing and Procurement Unit in the process of posting the tender on the website. As stated by the Director of the Purchasing Department at the university:

*We would post and submit the tender online... so people have to go online to access our source documents... and the evaluation process of the tender is also conducted electronically.*

In addition to the e-tendering system, Multimedia University uses the Express Creative system called “NetCreative”. NetCreative is an online ordering system used for the purchase of approved standard furniture, office supplies and merchandise from Express Creative. Approved staff throughout the university can use this system to order goods. Approved staff log into NetCreative in order to view the products offered by Express Creative, and can then make an order online. The order will immediately go to the Express Creative warehousing system via a paperless transaction. The order can then be delivered directly, on time, to the university.

Power Print has also set up a printing service business located at Multimedia University. The “Print Market Portal” is a print services system provided by Power Print for the university. Multimedia Print Services provides printing services that meet all of the university’s required tasks, such as printing examinations, examination submission guidelines, job submissions, staff diaries and other text items. Printing products also consist of brochures, business cards, envelopes, posters, newsletters and other services such as book binding, data merging and record printing. Multimedia Print Services provides state-of-the-art digital and offset printing. System users can request and submit their orders through the Print Market online portal.

The implementation of e-procurement at Multimedia University provides several benefits, including the ability to complete monthly invoices, and to have the aggregated data transferred to the Strategic Sourcing and Procurement Unit ledger. This process eliminates errors and provides significant savings in terms of time and labour, while eliminating process steps and manual intervention. In addition, e-procurement decreases
the number of required tasks such as invoice preparation, while improving the accuracy of data by removing unnecessary human intervention. The e-procurement system assists the university in expediting its procurement processes, thereby making the Strategic Sourcing and Procurement Unit more efficient. The next section discusses negotiation as part of the sourcing process in the e-procurement used at Multimedia University.

5.2.4 Negotiation in E-Procurement at Multimedia University

Negotiation in e-procurement at Multimedia University is essential. E-procurement is a tool designed to assist negotiation with trading partners, and it has become a platform through which Multimedia University negotiates with its trading partners. The e-procurement tools used are: e-tendering, NetCreative, the Print Market Portal and email. Email is the main communication medium used to send all necessary information to suppliers. However, face-to-face contact is used to negotiate if there are disagreements in the contract, or if different opinions are offered throughout the negotiation process. As stated by the Procurement Manager:

[Negotiation in e-procurement might occur] via electronic communication, and often the parties will communicate via email. However, when there is a difference of opinion, generally face-to-face negotiation will occur.

Activities such as procuring goods and services occur in the Strategic Sourcing and Procurement Unit, and other similar units at Multimedia University. The people involved in negotiations at the university vary depending on the expertise of their area in relation to the relevant suppliers. For instance, the staff in the Human Resources Unit is responsible for managing the contracts arranged with recruitment companies, because they have the expertise required for negotiation regarding the recruitment of personnel for the university. However, the tender and contract processes are still handled by the Strategic Sourcing and Procurement Unit. As the Procurement Manager explained:
We run big contracts, for example with Power Print and Express Creative, but there are other people within the university who buy things all the time. When they need to undertake a procurement activity, we will work in conjunction with the subject matter expert in that unit to get the best outcome for the university.

The person responsible for setting up tenders with the suppliers utilised by Multimedia University, and for negotiating the resulting contracts, is the Contract Manager. The Contract Manager at Multimedia University is the Director of the Strategic Sourcing and Procurement Unit. As stated by the Procurement Manager:

The Contract Manager is the person at the university that will manage the relationship with supplier and he is an expert in regards to the daily task of operating with the suppliers.

Contract negotiation occurs frequently at Multimedia University. There are two parts of each contract that are typically negotiated, namely, commercial terms and legal terms. Commercial terms involve the scope of services that will be provided by the Director of Strategic Sourcing and Procurement to the supplier. Within the scope of services the Contract Manager will state what he or she wants from the supplier, including details regarding the price, quality of products, delivery time and relationship management. The legal terms refer to how the intellectual property will be traded, how confidential information will be traded, what the liabilities in the contract are and who is liable. Negotiation occurs if the scope of the services requested and the legal terms cannot be fulfilled by the supplier. For instance, according to the Procurement Manager:

I want you to provide a thousand tins in one week and the supplier can only give you 800 tins in 10 days; this is the kind of situation where negotiation will take place.

In addition, negotiation occurs when Multimedia University is selecting suppliers. After the tender has been posted on the website, the Contract Manager in the Strategic Sourcing and Procurement Unit will have to make a decision as to who will be the best supplier to be selected from the tender. Normally there will be a panel that assesses the quotes that come from the potential suppliers, and the negotiation then commences during which the
preferred supplier will be selected on the basis of their offer. The tender process is opened within the organisation by the Contract Manager who created and requested the tender. There is then a need to gain an appropriate consensus between the procurer and supplier before the contract can be signed. Negotiation with suppliers also depends on the complexity of the products and services procured. If Multimedia University procures low-cost products such as office supplies, then the e-procurement tool can be an effective device in helping to share information in efficient ways. This is because there is little market price fluctuation for this type of product. However, if the procurement involves high-value products such as those involved in building construction, e-procurement will not be the only appropriate device to be used to negotiate. As stated by the Procurement Manager:

If it is a low complexity product, for example, petrol, which is known as a simple product, the procurer can get a better price offer via e-procurement and may be able to negotiate 90% via e-procurement. However, if there is a complex product or service involved, then e-procurement is not sufficient enough to assist in the decision-making required to procure those goods and services.

There are other factors that need to be considered during the negotiation process, such as the quality of the products and services procured. As stated by the Procurement Manager, “the principle of negotiation is value for money. Obviously the value is not just about price: it also includes other factors such as culture, trust, relationship”.

Similarly, the Power Print Manager stated:

I think in reality, negotiation is based on other factors such as ethics and integrity, which are both very important. In addition, the relationships that we have in the market, how to develop the relationship with trading partners in the future and which trading partners can help us with our services and a lot more of commercial contract consideration becomes important factor in negotiation too.

Other factors that need to be considered during the negotiation process are discussed in the following section. Through analysis of the data collected from the interviews with
the procurers and suppliers at Multimedia University, the social issues influencing negotiation in e-procurement at Multimedia University were identified.

5.3 Social Issues that Influence Negotiation in E-Procurement at Multimedia University

Social issues are influencing factors that impact on negotiation in the e-procurement environment (Abu Bakar and Peszynski 2010). These issues can be discussed from two different perspectives, namely, from the procurer and supplier perspectives. An analysis of the data regarding the social issues influencing negotiation in e-procurement at Multimedia University, in regard to the procurers and suppliers, is discussed below.

5.3.1 Social Issues that Influence Negotiation in E-Procurement at Multimedia University from the Procurer Perspective

Nine categories of social issues emerged from the interviews with representatives from Multimedia University, including the Director of Procurement and Strategic Sourcing and the Procurement Manager of the Strategic Sourcing and Procurement Unit. Descriptions of each category also emerged from the data. A summary of the categories is provided in Table 5.4.
### Table 5.4: Summary of social issue categories that influence negotiation via e-procurement from the procurer perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Relationship with the supplier</td>
<td>A relationship with suppliers needs to be built, managed and maintained by one person. The Director of Strategic Sourcing and Procurement at Multimedia University is responsible for managing face-to-face relationships with the university’s current suppliers. If the Strategic Sourcing and Procurement Unit decides to change suppliers, the Contract Manager will help to create a contract with the new supplier. As stated by the Procurement Manager, “There is somebody in this university that manages face-to-face relationships and there is a need to manage a good relationship with current suppliers because it will help to ensure that the contract and negotiation runs smoothly”. The relationship that the procurer has with the market is a way that the procurer’s organisation maintains the relationship with trading partners. The way procurers treat the market will influence the negotiation process. For instance, maintaining a good relationship with past suppliers means that the procurer’s organisation also maintains a positive relationship with the market. The way that the organisations treat the market can improve the service offered, through the negotiation of a better price.</td>
</tr>
<tr>
<td>No.</td>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Trust</td>
<td>Trust needs to be earned with the trading partner. According to the Contract Manager, earning trust takes several steps. These steps include building trust through conversations, providing information, developing relationships, sharing knowledge and working together with common goals, and maintaining the ability to solve problems together. Trust can be built through having a long-term relationship with suppliers. For instance, according to the Contract Manager, you may set up a contract in Australia via e-procurement by sending an email regarding the contract details and claiming “We can do this and do that, and I will protect your IP’. However there is no guarantee they will follow the contract, unless you have a relationship with that company”.</td>
</tr>
<tr>
<td>3</td>
<td>Skills of the negotiator</td>
<td>The skills that negotiators apply in the e-procurement field are important. The negotiator needs to be able to build the relationship by being friendly, understanding, and by ensuring a win-win outcome for both parties. Negotiation with suppliers might be harsh and tough, so the Contract Manager requires communication skills in order to build a relationship with the supplier. By benefiting from the presence of a skilful negotiator, the potential supplier will persist with fruitful negotiation. Any differences will therefore be settled with fewer disputes.</td>
</tr>
<tr>
<td>4</td>
<td>Culture</td>
<td>Cultural issues need to be acknowledged, addressed, incorporated and understood by the procuring organisation. As stated by the Contract Manager “You can’t change culture; thousands of years of cultural background wouldn’t change because of the system”. For instance, in Asia, a business relationship is important. Relationships might be built over years before you actually do a deal and create a contract: “If you negotiate with Japan, you have to go for dinner with the CEO and exchange cards and talk and meet each other, and later you will do a deal”.</td>
</tr>
</tbody>
</table>
Table 5.4: Summary of social issue categories that influence negotiation via e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Sustainability issues</td>
<td>Sustainability refers to working together in order to find the best solution for both parties, with an understanding of the limited resources available. Partners must strive for the best decision not only based on one factor in decision-making, but must take all factors into consideration. These factors may be social (such as relationship and collaboration between the relevant parties), or economic (such as the price and quality of goods and services procured), and may influence negotiation in the e-procurement environment. For instance, there may be a high demand for fair-trade products by users in the university, which Express Creative cannot fulfil. Thus the Contract Manager from the Strategic Sourcing and Procurement Unit will negotiate by working together with Express Creative, in order to ensure that they will be able to supply enough of the goods without compromising the quality of their products nor their future plans. As stated by the Contract Manager: “If you just screw someone to the ground[sic] on the price, and not worry about other things such as trust, collaboration and other related issues, then the contract agreement will not be durable”.</td>
</tr>
<tr>
<td>6</td>
<td>Collaboration</td>
<td>E-procurement allows many stakeholders involved in negotiation to collaborate through inter-organisational and intra-organisational systems. Mutual benefits will be the greatest concern amongst all stakeholders involved in the negotiation process. For instance, for Multimedia University to be recognised as a fair-trade organisation (through certification provided by the Fair-Trade Association in Australia), there must be many parties involved in the negotiation process. These include Express Creative as the appropriate supplier providing fair-trade products (such as coffee), the Fair-Trade Association that will acknowledge the university as a fair-trade organisation, and Multimedia University who will serve as a supporter of fair-trade. These are the examples of the stakeholders that collaborate in order to ensure that the negotiation process succeeds.</td>
</tr>
</tbody>
</table>
Table 5.4: Summary of social issue categories that influence negotiation via e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Win-win outcome</td>
<td>A win-win outcome is about working together in partnership. By working together to support partners in business, each party can gain mutual benefits out of a business transaction. Each party involved in the negotiation will obtain the best possible result out of the negotiation process for themselves. For instance, for Multimedia University to be recognised as a fair-trade organisation, the many parties involved will each have their own vision regarding the benefits they will gain from the collaboration. For instance, Express Creative will gain benefits by earning a profit from selling fair-trade products as a supplier, while Multimedia University will benefit in terms of the recognition it will receive from the public as a supporter of fair-trade.</td>
</tr>
<tr>
<td>8</td>
<td>Corporate social responsibility (CRS)</td>
<td>The corporate social responsibility of each organisation can be fulfilled during negotiation. For instance, when the interview with the Contract Manager turned towards the scope of services, one particular aspect that was discussed was corporate social responsibility. As stated by the Contract Manager, “When you want to purchase paper, you know that lots of companies promise they will provide [environmentally] green paper. However when you look at the details, the green paper was recycled paper that came from Europe and was transported on a plane that emits large amounts of carbon. When you create the scope to purchase paper, you need to specify certain minimum standard environmental requirements”.</td>
</tr>
<tr>
<td>9</td>
<td>Value for money</td>
<td>The value discussed throughout negotiation is concerned with the complexity of the products and services procured. Value is not just about price. For instance, if the product at hand is simply a pen, and every pen is considered the same, then price becomes a priority issue in negotiations between trading partners. This is because there are less switching costs involved. However, if high-value complex services and products are being traded, then social issues such as the relationship with the supplier, and the need for win-win outcomes, must be considered in addition to the price. As stated by the Contract Manager: “The principle you work for is value for money. However, value is not just about price. It is about other things, such as culture and trust.”</td>
</tr>
</tbody>
</table>
All nine of the above social issues influence negotiation in e-procurement at Multimedia University, and all are related to each other. For negotiation in e-procurement to succeed, a strong relationship with suppliers needs to be built, managed and maintained. Trust can be built by maintaining a relationship with the current supplier/s or market. Trust can be built through sharing knowledge and working together with common goals, and through the ability to solve problems together. By having an element of trust within business relationships, negotiation processes can run smoothly. Negotiation processes can also run smoothly through win-win outcomes, where each party will obtain the best result out of the negotiation process. Collaboration amongst stakeholders, in order to achieve win-win outcomes, can be obtained through understanding the business partner’s culture, and through the skills applied by the negotiators. Understanding a product’s value for money relies not only on price as a sole determinant, but also on how sustainability can be maintained. All these issues play a part in the negotiation process in the e-procurement environment.

These issues need to be addressed by the procurer at different stages of the negotiation process. This helps to ensure that the negotiation process will run smoothly from beginning to end. For example, the negotiator’s communication skills are essential before the negotiation begins, and they remain essential throughout the negotiation process. The skills need to be maintained even after negotiation finishes. This is due to the fact that a market relationship needs to be maintained even after the current negotiation is completed, in order to ensure that future benefits can be gained out of the business relationship. Such benefits may include getting better prices through the negotiation process in the future. The next section discusses the social issues that influence negotiation in the e-procurement environment at Multimedia University, from the supplier perspective.
5.3.2 Social Issues that Influence Negotiation in E-Procurement at Multimedia University from the Supplier Perspective

Six categories emerged from the analysis of the interviews with the representatives from Express Creative and Power Print. Descriptions for each category also emerged from the interviews. A summary of the categories is provided in Table 5.5.

Table 5.5: Summary of categories influencing negotiation via e-procurement from the supplier perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Communication issues</td>
<td>Open communication is needed when dealing with trading partners. Open communication means that both parties can openly discuss any problems concerning products or services, but the communication between trading partners still needs to be conducted through face-to-face negotiation. For instance, the negotiator from Power Print can openly discuss issues of print copy technologies with the Contract Manager. Power Print provides suggestions regarding the best solutions for print copy use, particularly those designed to benefit the university, in terms of the cost and the effectiveness of the print copy product. As stated by the Power Print Manager, “I am giving the Contract Manager at the Multimedia University good, ethical advice, by recommending that having less printers and photocopiers is best for the university in cutting costs because of high technology printer provided”.</td>
</tr>
</tbody>
</table>
Table 5.5: Summary of categories influencing negotiation via e-procurement from the supplier perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Trust</td>
<td>Trust means both parties need to respect each other, and to understand each other’s needs during the transaction. Both organisations need to understand what they are trying to achieve throughout the negotiation process. Trust also refers to the person’s ability to perform (deliver goods and services), based on the promises made. Trust can be established through the development of a strong relationship, and through understanding the other party’s business. For example, the negotiator from Power Print has promised Multimedia University that they will provide equipment that will support printing services. The negotiator needs to fulfil his or her promise that there will be no loss of business, because of the need to strengthen the relationship and trust between Power Print and the university. As stated by the Power Print Manager, “Part of my duty involves caring about the relationship that I have with the Contract Manager at Multimedia, while fulfilling the requirements needed”.</td>
</tr>
<tr>
<td>3</td>
<td>Culture</td>
<td>Culture is about dealing with lots of different behaviours expressed by people from different countries during business transactions. It is necessary to have staffs who understand the culture of the people they are negotiating with. For instance, Power Print is a Japanese company that operates in Australia. The way the company works and thinks is influenced by the Japanese management culture. However, individuals from Western companies (such as those based in North America) are more likely to think of themselves when involved in the negotiation process. As stated by the Power Print Manager, “I have found that Asian companies are generally good and very global-oriented, whereas North American companies are focussed more on the domestic marketplace. I have found it a lot more difficult to deal with North American companies”.</td>
</tr>
</tbody>
</table>
Table 5.5: Summary of categories influencing negotiation via e-procurement from the supplier perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Goodwill/Reputation</td>
<td>The maintaining of the good name of an organisation rests squarely on the products and services it sells to its client. The negotiation process relies on the reputation of the business that the procurer is dealing with. For instance, Power Print not only sells services; the company also sells its good name. As stated by the Power Print Manager, “We have to sell quality printers to our clients, and to fulfil their requirements as promised, so that they can trust us. You know that it is a big issue because it is not a printer that I am responsible for, but I am responsible for the Power Print company’s name and its reputation”.</td>
</tr>
<tr>
<td>5</td>
<td>Relationship with the client</td>
<td>The relationship with the client refers to a partnership where there is a need for open and honest communication between trading partners at the initial stage of negotiation, which builds transparency between trading partners. Relationship also refers to how staff structure their thoughts about their trading partners, and how they collaborate technically and strategically in the marketplace. For instance, Express Creative has set up an online ordering system for Multimedia University. The online ordering system helps pre-approved staff members throughout the university to make orders online. This is to ensure Multimedia University gets better service from Express Creative as a supplier.</td>
</tr>
<tr>
<td>6</td>
<td>Instability of market value</td>
<td>The instability of market value is a result of the high competition of products and services sold in the market. So, as a supply company, to compete with other suppliers, there is a need to have a strong strategic plan for handling negotiations. For example, Power Print has diversified its services by selling products such as printing devices and printing services to Multimedia University.</td>
</tr>
</tbody>
</table>

Six social issues influence negotiation in e-procurement at Multimedia University from the supplier perspective. The university’s relationship with its clients can be strengthened through open communication with these individuals. Trust can be built
through open communication, if suppliers are able to keep the promises they have made. By having trust, issues such as the instability of the market can be resolved through negotiation with the trading partners. The instability of market value, as a result of higher competition with other suppliers in the market, could potentially cause the supplier to easily lose business with trading partners. However with trust built between them, and the goodwill of the supplier’s business relationships with its trading partners, negotiations can take place effectively.

The description of social issues as influencing factors in negotiation in e-procurement at Multimedia University, from the perspectives of both parties involved, provides an understanding of how social issues can influence negotiation in e-procurement. However, amongst the negotiation-related social issues highlighted during the research conducted at Multimedia University, the two most important issues have been identified as the relationships with trading partners, and trust. Building up and maintaining a good relationship with trading partners is the most important element influencing negotiations at Multimedia University, because of the long-term business relationship maintained between the university and its supplier organisations. Multimedia University had maintained a relationship with its trading partners since before e-procurement was implemented at the university. Therefore, the electronic communication conducted between the university and its trading partners will not cause many problems because of the long-term relationship and trust they have already developed with each other. This trust will help ensure that negotiations between the two parties through e-procurement will run smoothly. In addition, the suppliers working with Multimedia University know the university’s cultural approach to doing business; once again as a result of their long-term experience in conducting business with the University. Hence, the relationships with trading partners and trust are the social issues that significantly influence negotiation in e-procurement at Multimedia University.

The phenomenon of business negotiations in e-procurement at Multimedia University, as described above, is later further explained using the actor-network theory as a lens. This
will provide different perspectives about business negotiations in e-procurement at Multimedia University.

5.4 Analysis using Actor-network Theory

This section provides the main description and analysis of the case study of negotiation in e-procurement at Multimedia University, through the use of actor-network theory. The ANT concepts as discussed in Chapter 3 are applied in the following section, in order to show the process of building a network in negotiation in e-procurement at Multimedia University.

5.4.1 Translation Process used in Negotiation in E-Procurement at Multimedia University

Using the translation concept, the case study was synthesised to show the process of building a network in negotiation in e-procurement at Multimedia University. A brief description of negotiation in e-procurement at Multimedia University has been provided and discussed (Section 5.2.4). The systems that are used at Multimedia University include e-tendering, email, NetCreative (an ordering system) and the Print Market Portal (a services system). These systems are used in the procurement of different types of goods and services, and they assist Multimedia University in both its sourcing processes and in its negotiation with trading partners. For instance, the systems aid in procuring office supplies and furniture. However, Multimedia University still uses the face-to-face method to negotiate with trading partners, due to the complexity of products or services procured, such as printing services.

The Director of the Strategic Sourcing and Procurement Unit (also called the Contract Manager) at Multimedia University is the person directly involved in the negotiation processes with trading partners. With help from the Procurement Manager, negotiation processes can be effectively carried out with the trading partners. While suppliers typically serve as the main trading partner in business negotiations, other actors can also influence the negotiation process indirectly. In the case of Multimedia University, such
actors can include the Director of the Strategic Sourcing and Procurement Unit. Other
actors include the managers from other departments in the university and the national
Fair-Trade Association. However, there are other social issues that need to be considered
and addressed as potential influences on negotiation in e-procurement at Multimedia
University, in order to ensure that negotiation with trading partners can be successful.
The involvement of actors in negotiation in sourcing in the e-procurement network can be
understood in the translation process, which involves the three stages of problematisation,
interessement and enrolment.

5.4.1.1 Building the Network – Problematisation

Negotiation at Multimedia University can be treated as the process of enrolment of
various actors within the organisation into the network of suppliers. In order for
negotiations to be successful, relevant actors have to be enrolled in the network which
represents the new tactics of negotiation in the e-procurement environment. If the new
tactics of negotiation in procuring goods and services in e-procurement are able to
assemble in an actor network, wherein each important actor had passed through the
obligatory passage point and had then been successfully enrolled, then negotiation in e-
procurement would be successful. Otherwise, there would be failure in the e-
procurement negotiations.

In identifying the actors involved in negotiation in e-procurement at Multimedia
University, the Contract Manager plays the main role in carrying out negotiations and
representing the emerging network. The Contract Manager is identified as a focal actor
in this study, being the person responsible for identifying and enrolling other actors in
negotiation in e-procurement at Multimedia University. As a first step, the Contract
Manager handles big contracts with suppliers at the Power Print and Express Creative
companies; these are contracts which serve as a means of procuring goods and services.
The two systems used at Multimedia University to procure goods and services include
NetCreative and the Print Market Portal. These two systems have been provided by the
suppliers’ companies in order to support procurement processes at Multimedia University. The Contract Manager works together with Power Print and Express Creative to support the system which can be accessed by personnel across Multimedia University to order goods and services. As stated by the Contract Manager/Director of the Sourcing and Procurement Unit:

*I have worked together with suppliers to support the e-procurement tools provided by Express Creative for procurement processes in the university.*

The Contract Manager realised that other people in the university also use the system, in which all goods and services that can be procured have been pre-approved by the Sourcing and Procurement Unit. This might lead to disagreement in terms of choices made regarding the types of products to be procured for the university, because the relevant decisions have been made only by the Sourcing and Procurement Unit. Therefore, the Contract Manager can attempt to enrol another actor to solve this problem by having a fair-trade certificate for the products procured from the Fair-Trade Association. By maintaining the university’s fair-trade status, the Contract Manager believes that the goal of the university is to achieve the best outcome from the procurement process. The enrolment of the Fair-Trade Association as a non-profit organisation with Multimedia University shows how another actor-network is formed. By being recognised as a fair-trade organisation, negotiation with suppliers will be easier since one of the university’s suppliers is selling fair-trade products.

Negotiation is also conducted in other departments at Multimedia University, for instance in the Human Resources Department. The responsible manager in this department negotiates with recruitment agencies in order to recruit the best personnel for the university. Such a task should be undertaken by the experts in other department because the Sourcing and Procurement Unit does not have the expertise in handling the recruitment process. The Contract Manager will work together with the responsible manager in order to ensure that the negotiation process runs smoothly. Therefore, the Contract Manager is not only responsible for handling procurement at the university, but
also needs to ensure that all negotiation processes can be conducted effectively. As stated by the Procurement Manager:

\emph{We [are] working in conjunction with other departments in assisting them with the tender process and we may need to negotiate with them in order to get the best outcome for the university.}

E-procurement tools are used at Multimedia University to procure goods and services, and are used to assist the Contract Manager in negotiating with the actors involved. However, the e-procurement tools can only be partially used to assist the Contract Manager in negotiation. This is because the relevance of using e-procurement tools to procure goods and services depends greatly on the types of goods and services being procured. If the procurement involves high-value complex services such as building construction, e-procurement tools will not be an appropriate system to use in negotiation. Thus, social issues can become influencing factors in e-procurement negotiations at Multimedia University. Based on the description of identifying actors involved in negotiations in e-procurement, Table 5.6 presents a summary of the human and non-human actors involved at Multimedia University.
Table 5.6: Human actors and non-human actors involved in the negotiation processes in e-procurement at Multimedia University

<table>
<thead>
<tr>
<th>Human Actor</th>
<th>Non-Human Actor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procurer</strong></td>
<td><strong>Organisations involved in the negotiation</strong> –</td>
</tr>
<tr>
<td>- Director of Procurement and Strategic Sourcing (Contract Manager for the Strategic Sourcing and Procurement Unit)</td>
<td>- Multimedia University</td>
</tr>
<tr>
<td>- Procurement Manager</td>
<td>- Power Print company</td>
</tr>
<tr>
<td>- Vice Chancellor, Multimedia University</td>
<td>- Express Creative company</td>
</tr>
<tr>
<td>- Contract Manager appointed in each unit or department (with expertise in the subject matter being negotiated)</td>
<td>- Fair-Trade Association</td>
</tr>
<tr>
<td><strong>Supplier (Power Print Company)</strong></td>
<td><strong>Systems operated</strong> –</td>
</tr>
<tr>
<td>- The Manager with expertise in the supply of the relevant products and services</td>
<td>- E-tendering</td>
</tr>
<tr>
<td>- Site Operation Manager</td>
<td>- NetCreative</td>
</tr>
<tr>
<td></td>
<td>- Print Market Portal</td>
</tr>
<tr>
<td></td>
<td>- Email</td>
</tr>
<tr>
<td></td>
<td>- Phone</td>
</tr>
<tr>
<td></td>
<td>- Face-to-face contact</td>
</tr>
<tr>
<td></td>
<td>- Open Windows software</td>
</tr>
<tr>
<td></td>
<td>- Contract Management</td>
</tr>
</tbody>
</table>
In order to build the actor-network in negotiation in e-procurement at Multimedia University, the Contract Manager suggested establishing and managing relationships with the actors involved, as a strategy to achieve the goals of the actors. For instance, a supplier’s goal is to try to maintain business with the university as long as possible, for profit purposes. In order to achieve this goal, the suppliers will have to establish and manage a relationship with the Contract Manager. Doing so allows the suppliers to avoid any obstacles related to negotiation with the Contract Manager, specifically those linked
to social issues such as trust, culture, collaboration, and the positive relationship with their trading partners, in order to achieve their goals (refer to Section 5.5). Establishing and managing relationships with actors is the obligatory passage point specified by the Contract Manager.

Figure 5.2 represents how the Contract Manager, as a focal actor, frames the problems that may occur in negotiation in e-procurement, and identifies other relevant actors that will affect the actor-network in negotiation in e-procurement at Multimedia University.

Figure 5.2: Problematisation for negotiation in the sourcing process between partners in the e-procurement network at Multimedia University
5.4.1.2 Building the Network – Interessement

The second step in translation involves convincing the actors to agree on the interests defined for them by the Contract Manager. The interest defined by the Contract Manager is to establish and manage the relationship with the actors involved in negotiations in the e-procurement network.

Association with and enrolment of suppliers

The first part of negotiation at Multimedia University takes place between the Contract Manager and the suppliers. The Contract Manager is responsible for establishing and managing the relationship with the university’s suppliers or trading partners. The relationships established with the suppliers have existed for many years, and the Contract Manager continues these relationships because they have been established with good suppliers who can provide high quality services and goods as a result of the procurement process. The suppliers are directly involved with the Contract Manager during the negotiation process. The communication between the Contract Manager and suppliers is conducted via electronic methods, and sometimes face-to-face.

Understanding the association with and enrolment of e-procurement tools as procurement devices

The Contract Manager understands the importance of using e-procurement tools and systems in assisting the negotiation to procure goods and services. The purpose of using the system is to expedite the procurement process undertaken with the trading partners. However, the system cannot be utilised as a negotiation tool alone, due to the social issues that influence negotiation such as trust, culture and collaboration. As stated by the Procurement Manager:

Conducting negotiation in the electronic environment has not changed the way we negotiate. May be the need for negotiation has dropped a little bit due to the use of e-procurement tools for procuring low-value products and services. However, negotiation is still used to get the best outcome for the parties involved in negotiation processes.
The Contract Manager needs to be alerted to the capabilities of the system used in negotiating and procuring goods and services, in order to ensure the satisfaction of the users of the system. By knowing the inadequacies of the system used to fulfil the requirements in the procurement process, such as contract management, the Contract Manager can attempt to improve the system. As stated by the Director of Strategic Sourcing and Procurement:

_E-procurement commenced at the university in 2004. However since then, we are looking at getting other systems in place that would facilitate e-procurement in a better way. In fact, we are in the process of amending products such as ‘open windows’, which will principally assist us in managing contracts and the e-tender tool is a part of it._

**Association with and enrolment of other departments**

The next part of negotiation takes place between the Contract Manager and the managers from the other departments at Multimedia University. The Contract Manager works with managers from other departments if procurement activities are involved, such as the tender process. The purpose of working together is to ensure that the procurement processes at the other departments are conducted effectively.

**Association with and enrolment of non-profit organisations**

The last part of negotiation takes place between the Contract Manager and the Fair-Trade Association as the non-profit organisation (NPO) team. The NPO team collaborates with the Contract Manager to certify the university as a fair-trade university. The purpose of having this recognition is to show that the products procured by the university address environmental concerns. By establishing and managing relationships with non-profit organisations, the Contract Manager obtains the fair-trade certificate. By being classified as a fair-trade university by the Fair-Trade Association, the university is better able to negotiate with its suppliers, especially if the supplier sells fair-trade products.
5.4.1.3 Building the Network – Enrolment

The actors involved in negotiation in e-procurement at Multimedia University are enrolled through the Contract Manager’s establishment and management of relationships between actors. One of the successful enrolments is achieved through the agreement of the Express Creative Company and the Contract Manager to continue the contract. As stated by the Director of Procurement and Strategic Sourcing:

*Recently, more arrangements in regards to procuring standard products and services with Express Creative have been made, because Multimedia University has a long-term relationship with Express Creative as a supplier.*

Another successful enrolment has occurred through the agreement of the Power Print Company to extend its service from only supplying photocopiers as multifunction devices utilising the latest technology, to supplying a printing service.

Despite the actor-network created between the Contract Manager, the suppliers, the managers from different departments and the NPO team, negotiation in e-procurement at Multimedia University still faces challenges related to negotiating with human actors. The factors that can influence negotiation in e-procurement include social issues (refer to Section 5.5). In addition, non-human actors such as the products procured, the organisations involved and the procurement policies utilised also influence negotiation in e-procurement.

The procurement tools used to assist the Contract Manager and the users of the system in procuring goods and services for the university impact on the social issues that influence negotiation in e-procurement. Figure 5.3 represents the actor-network for negotiation in e-procurement at Multimedia University. The actor-network shows the building of networks among human and non-human actors, the complexity of the relationships among them, and the social issues that arise in actor networks in regard to negotiations in e-procurement.
The actor-network built for negotiation in e-procurement consists of both human and non-human actors. Negotiation at Multimedia University occurs between several types of human actors, including suppliers, the NPO team, and managers from other departments. These human actors are involved in the negotiation process by procuring goods and services with the Contract Manager at Multimedia University. The Contract Manager builds a relationship with the NPO team for the purpose of improving the procurement process.
process, and the Contract Manager also builds a network with the managers from other departments at the university in order to ensure that the procurement process runs smoothly.

The interaction between human actors and the Contract Manager takes place through electronic methods such as e-procurement tools, while face-to-face negotiations also take place. The e-procurement system used by the university influences the negotiations in the e-procurement. The e-procurement tools used at Multimedia University for procuring goods and services are suitable for low-cost types of products. Thus, negotiation can occur directly through the use of e-procurement tools. However, when high-value types of products are involved, the e-procurement tools are used with the understanding that there are social issues that can impact on the negotiations with the trading partners. Therefore, the social issues identified in this research impact on the use of the e-procurement tools by the university. Furthermore, the identified social issues are influencing factors in the negotiation in e-procurement. From the ANT perspective, social issues are one of the non-human actors that can influence negotiation in an e-procurement network.

E-procurement tools, social issues, the types of products procured, and the procurement policies and organisations involved in procuring the goods and services are all examples of the non-human actors involved in negotiation in e-procurement at Multimedia University. Negotiation in e-procurement at Multimedia University not only involves the interaction between human actors, however, as non-human actors can also influence the negotiation process used in procuring goods and services. The human and non-human actors are related to each other through the suppliers who supply products and services to the university. Suppliers need to follow the procurement policy guidelines prepared by the Strategic Sourcing and Procurement Unit at the university. The type of products procured by the university also influences the negotiation process that takes place between the trading partners. The social issues that influence negotiation in e-
procurement are the non-human actors that have an impact on the negotiation procedures in e-procurement at Multimedia University.

5.5 Summary

Negotiation in e-procurement is essential at Multimedia University. These negotiations can be carried out either online or offline. The e-procurement system, such as e-tendering, is appropriate for negotiation should the procurement process involve non-complex products. E-tendering only represents part of the negotiation process, and the substantive negotiation process still needs to be conducted through face-to-face negotiations. In order for the university to reap benefits from e-procurement, and to achieve successful negotiations with suppliers, other social issues need to be considered. The social issues are essential factors in the decision-making that relates to ensuring that negotiation succeeds through e-procurement. In addition, the integration of social issues as a strategy to assist negotiation in e-procurement will help the negotiators to make decisions effectively. By identifying and understanding the social issues that influence negotiation in e-procurement, the value chain among all the parties involved in the negotiation process can be improved.

The use of actor-network theory as a lens to describe the phenomenon serves to conceptualise how negotiation in e-procurement operates. Negotiation in e-procurement involves many actors, both human and non-human, with each of these actors fulfilling individual roles in order to ensure the success of the negotiation process. The network built by the focal actor is an essential element for negotiation in e-procurement. The following chapter analyses another case study from a public sector organisation involved in negotiation in e-procurement. The purpose of undertaking the second case study is to further explore the findings garnered from the first case in the public sector.
Chapter 6 – The Technology University Case Study

6.1 Introduction

This chapter presents the analysis of the data collected from another public sector organisation, called Technology University, and its trading partners in negotiation in e-procurement. A background of the case study, regarding organisational structure and the goods procured, is provided. The findings on e-procurement at the university, how negotiation in e-procurement operates, and the social issues influencing negotiation between the trading partners and the university, from the perspective of the procurer, are explained. Finally, an analysis using actor-network theory is undertaken to explore the phenomenon of negotiation as part of the sourcing process at Technology University.

6.2 Case Study Background

6.2.1 Organisational Structure of the Supply Chain and Procurement Group at Technology University

Technology University is located in Melbourne, Australia, and has four different campuses in different locations. Each location is responsible for procuring its own goods and services. However, the procurement operations undertaken at each location are monitored by the Supply Chain and Procurement Group which is located at the central campus of the university. The Supply Chain and Procurement Group is organised under the management of the Logistics Division. The role of the Logistics Division is to provide high quality, reliable and cost-effective logistics solutions, in order to support Technology University’s core activities and goals including the procurement of the best goods and services. There are four other groups under the Logistics Division. These include the Sales and Operations Planning Group, the Production and Operations Group,
the Mail House and Packaging Services, and the Director’s Office. The Supply Chain and Procurement Group handle two types of services, namely, fleet services and procurement services. Figure 6.1 represents the organisational chart for Technology University, and in particular shows the Supply Chain and Procurement Group.
Technology University spends approximately $210 million a year to procure all types of goods and services for university operations, with 28,000 purchase orders having been
made (2010). In procuring goods and services, the Supply Chain and Procurement Group have its own role in handling all the procurement operations conducted by the university. Each of the groups handles different procurement operation tasks. The procurement operation tasks consist of handling the purchase order system, handling the tendering system, handling the contract system and handling day-to-day management operations. The Supply Chain and Procurement Group aims to ensure that all the procurement operations run smoothly.

6.2.2 Goods and Services Procured at Technology University

Technology University procures goods and services from many suppliers, most of whom are local suppliers. Only a few goods and services come from national or state-wide suppliers. CE Company is one of the local suppliers that have a long-term relationship with Technology University. The relationship with CE Company commenced fifteen years ago. Technology University has used e-procurement in its trading with CE Company for five years. The main types of goods procured at Technology University include office supplies, furniture, computers, merchandise, travel management, computer software and vehicle leasing. The main goods procured from CE Company specifically consist of office supplies and furniture. Within the process of handling procurement between Technology University and CE Company, there are two main positions responsible for ensuring that the procurement process runs smoothly, namely, the Manager of Supply Chain and Procurement (for the university as the procurer) and Sales Manager of CE Company as the supplier of the university. Table 6.1 presents a summary of the roles and responsibilities of these participants.
Table 6.1: Description of the roles and responsibilities of the participants involved in procurement at Technology University

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Group</th>
<th>Organisation</th>
<th>Job Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager of Supply Chain and Procurement</td>
<td>Procurer</td>
<td>Technology University</td>
<td>• Responsible for procurement within the university.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Responsible for the Procurement Group in his department</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Negotiates and establishes major university contracts with trading partners</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Assists other faculties and departments in procurement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Manages full public tenders, selects tenders and processes quotes</td>
</tr>
<tr>
<td>Sales Manager</td>
<td>Supplier</td>
<td>CE Company</td>
<td>• Manages a small sales team</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Ensures all services provided to the university are properly managed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Manages all the agreements and services CE has with Technology University and other universities</td>
</tr>
</tbody>
</table>

6.2.3 E-Procurement in Technology University

The procurement process in Technology University takes place in a decentralised environment. In this environment all the faculties and divisions conduct their own procuring of goods, with central contracts or commodities being managed centrally by the university’s Procurement Group. In 2011, the university spends $210 million a year procuring all types of goods and services needed for its continued operation. Out of the total amount spent on procuring goods and services each year, approximately, only $20 to $25 million is spent on procuring goods using the e-procurement system. The procurement process at the university is based on a combination of procurement processes that are both manual and electronic. E-procurement was introduced in the
In implementing e-procurement technology, the university has faced several problems. The issues faced in implementing e-procurement were internal rather than external. One of the internal problems faced was the need to make users more familiar with the new procurement system being implemented. However, with training provided by the system provider for user procurement at the university, the system was quickly adopted. As stated by the Supply Chain and Procurement Manager:

*By spending higher costs for the training the user will get a good exercise when the old system replaced with a new system.*

Another type of internal problem faced by the Procurement Manager in implementing e-procurement related to changing the passwords in order to allow users to continue to log onto the system. The system automatically locks each user’s personal password every three months for security purposes, and users need to have access to the password regularly; if the users forget to change their password, then it will affect the procurement process. Therefore, the Procurement Manager needs to ensure that the password is changed before it expires, in order to ensure that the procurement process run continuously.

E-tendering is one of the e-procurement devices used and enables the university to procure goods and services through the process of documenting the tender, setting-up the tender, posting the tender and submitting the tender electronically. The e-tendering system is called the tendering portal. The submission of the tender from potential suppliers to the university is conducted electronically and this expedites the supplier selection process. The e-tendering system enables the university and its potential suppliers to access the tender documents, and it allows for the electronic submission of tenders. Technology University has used the e-tendering system in procuring goods that
are valued at one hundred thousand dollars and above. If the tender value is below one hundred thousand dollars, the Procurement Manager may use the e-tendering system, or may submit hard copy quotations to potential suppliers. An electronic order system is another e-procurement device that the university uses to procure goods and services. As explained by the Supply Chain and Procurement Manager:

*The user in the university will search for and identify the goods that he or she will procure through the system, and will use the shopping cart to send the order electronically. Therefore all procurement transactions will start from ordering goods online, and will end with an electronic payment.*

The electronic order system has been maintained by the supplier company that has business with the university. If any problem occurs, such as access issues related to the electronic order system, or the university enquires about more lists of goods in the electronic order system, then the supplier will take full responsibility for ensuring that the list of goods is updated. These two e-procurement tools, namely, the e-tendering portal and the electronic order system, assist the Procurement Manager at Technology University to ensure that negotiation as part of the procurement process can be expedited. The following section describes the e-procurement negotiations at the university in more detail.

**6.2.4 Negotiation in E-Procurement at Technology University**

Negotiation in e-procurement at Technology University is essential, although most of the procurement negotiation is conducted manually. Negotiation in e-procurement at the university does not aim to procure goods and services at the lowest price, but rather to ensure that goods and services are delivered to the staff and students on time. For this purpose, the e-procurement tools are used to expedite the negotiation process with suppliers. Hence, services such as printing can be delivered quickly.
The Procurement Manager is the person responsible for selecting suppliers for the university. The process of selecting a supplier follows four steps. The first step involves choosing a contract supplier by checking via the university website whether the contract supplier is an existing supplier or a new supplier to the university. The second step is influenced by the result of the first. In the case that the preferred contract supplier is an existing supplier, then the Procurement Manager will send a request for quotation regarding the goods that need to be procured. If the preferred supplier is a new supplier, then the Procurement Manager will send the request via email using the supplier’s website. The quotation received from the preferred supplier should comply with the contract agreement. During the third step, the Procurement Manager will receive several quotes from the preferred suppliers, and will compare the different offers received. Finally, the Procurement Manager chooses the supplier that can meet the determined requirements. According to the Procurement Manager:

*We have to go through all four steps when we are choosing a supplier. However, we are trying to maintain relationships with our existing preferred suppliers and contract suppliers as much as possible.*

The university maintains the connection with existing suppliers by maintaining a collaborative relationship with them. A collaborative relationship means that the university and its suppliers will try to maintain a business relationship for as long as possible. This helps to ensure that the negotiation between them can run seamlessly, due to the relationship existing for a long time. However, if there is a need to choose a new supplier through which to procure goods and services, a potential supplier needs to provide their details on the university website. Based on the information provided, the Procurement Manager and his group will make a decision regarding the reliability of the new supplier. This decision is based on criteria such as the capabilities and the financial performance of the supplier. Normally around 30 percent of applications are approved. However, the Procurement Manager tends to use existing preferred suppliers to procure goods and services.
A variety of communication devices are used during negotiations with suppliers. The range of communication devices available includes email, telephone and face-to-face contact. Normally the Procurement Manager requests the supplier to conduct an interview and presentation in order to discuss their offers to the university. As explained by the Supply Chain and Procurement Manager:

*We will have the interview and presentation with several suppliers on one day. Based on the interview and presentations, we will short list a few potential suppliers, notify them via email and negotiate the offer.*

Negotiation with suppliers at the university involves a number of groups. These groups include the Procurement Group and representatives from the university such as the School Dean who serve as an evaluation panel. However, most of the time the representatives will let the Procurement Manager negotiate with the suppliers. If only the Procurement Manager is involved in negotiations with the supplier, then the Procurement Manager will report the negotiation result back to the evaluation panel. This helps to ensure that the outcome from the negotiation process with the suppliers is shared among the groups involved. Figure 6.2 represents the negotiation process at Technology University. The following section describes the social issues which influence negotiation in e-procurement at Technology University.

![Figure 6.2: Negotiation processes at Technology University](image)
6.3 Social Issues that Influence Negotiation in E-Procurement at Technology University

This section discusses the social issues that influence negotiation in an e-procurement environment from two different perspectives, namely, the perspective of the procurers and suppliers, at Technology University. The categories that emerged from the analysis are discussed below.

6.3.1 Social Issues that Influence Negotiation in E-Procurement at Technology University from the Procurer Perspective

Five categories of social issues that influence e-procurement negotiation at Technology University emerged from an analysis of the interviews conducted during this part of the study. In this section, the descriptions of each category are based on the interview with the Supply Chain and Procurement Manager at Technology University as the representative from the university in order to gain an understanding of the procurer’s perspective. A summary of the categories and the respective descriptions is provided in Table 6.2.

Table 6.2: Summary of social issue categories that influence negotiation in e-procurement from the procurer perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Relationship with supplier</td>
<td>The relationship with the supplier is one of the social issues that influences negotiation. In dealing with a supplier, the Supply Chain and Procurement Manager will try to incorporate procurement terms with those suppliers. These terms could, for instance, include the agreed price and the sharing of procurement information, such as contract terms and the quality and quantity of goods procured. However, sometimes the supplier will neglect to share the information that the Supply Chain and Procurement Manager needs, because of the short-term relationship the supplier has had with the university. Thus, the relationship with the supplier will influence the mutual willingness to share information between the university and the suppliers within the negotiation processes in the e-procurement network.</td>
</tr>
</tbody>
</table>
### Table 6.2: Summary of social issue categories that influence negotiation in e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Trust</td>
<td>Suppliers may resist using electronic tools in dealing with the university. For instance, as stated by the Supply Chain and Procurement Manager, “<em>We try to force the supplier to use the EFT process as a payment technique, rather than using cheques to make a payment</em>”. The resistance to using electronic devices is a result of trust issues surrounding the use of electronic tools as methods of communication during business transactions. In addition, there are suppliers in business with the university that do not have the ability to access email. Therefore, trust is one of the issues faced by the procurer during negotiations with suppliers, especially in regard to attempts to expedite the procurement processes.</td>
</tr>
<tr>
<td>3</td>
<td>Delivery time</td>
<td>One of the issues related to negotiation is the need for suppliers to deliver their goods on time. As a result of delays regarding the delivery of goods, several operations such as printing processes at the university will be likewise delayed. Technology University not only faces problems related to delivery time, but sometimes the goods delivered may also be damaged. Therefore, in order to overcome this shortcoming, the university has a policy designed to deal with damaged goods delivered by the supplier, which is included in the procurement policy.</td>
</tr>
<tr>
<td>4</td>
<td>Culture</td>
<td>Culture is an issue related to negotiation in e-procurement. The Supply Chain and Procurement Manager needs to be aware of the culture within an organisation, particularly in regard to the people involved in procurement at the university. By understanding other people’s tasks in the procurement process, the Supply Chain and Procurement Manager can easily undertake his task while the procurement process can run seamlessly. In addition, the Procurement Manager at the university is also concerned about the supplier’s culture that he is dealing with. As stated by the Procurement Manager, “<em>The supplier will have an internal culture, internal values, internal procedures that we need to incorporate and deal with</em>”. Thus, understanding organisational culture within the relevant workplace will help the procurer to expedite the negotiation and procurement processes.</td>
</tr>
</tbody>
</table>
Table 6.2: Summary of social issue categories that influence negotiation in e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Corporate social responsibility</td>
<td>Corporate social responsibility is one of the issues that influences negotiation. Although Technology University does not yet have a formal policy on CSR, the Procurement Manager is aware of this issue related to procuring goods and services. When a supplier sells goods to the university, one of the elements related to the description of goods focuses on the CSR issue (for instance an inquiry into the quality of the paper procured). Therefore, CSR is one of the issues that the Procurement Manager considers when negotiating with suppliers.</td>
</tr>
</tbody>
</table>

It appears that relationships with suppliers and an understanding of the business cultures involved are two important social factors that influence negotiation in e-procurement at Technology University. Relationships with suppliers have become one of the main issues related to negotiations in the e-procurement environment, because most of the suppliers at Technology University are long-term suppliers. Thus, maintaining a good relationship with a supplier is the one factor that can ensure successful negotiation. With a previously-established good relation with suppliers, negotiations can be undertaken effectively because both parties are aware of the relevant business cultures regarding the procurement of goods and services. Therefore, culture becomes another important issue that influences negotiation in e-procurement. By understanding a supplier’s culture in business, cooperation between both parties can be easily established. The following section discusses the social issues that influence negotiation in e-procurement at Technology University from the perspective of the supplier.

6.3.2 Social Issues that Influence Negotiation in E-Procurement at Technology University from the Supplier Perspective

As stated previously, five categories of social issues that influence e-procurement negotiation at Technology University emerged from an analysis of the interviews undertaken in this stage of the study. In this section, the descriptions for each category
are based on the interview undertaken with the representative of CE Company in order to understand each category from the perspective of the supplier. A summary of the descriptions is provided in Table 6.3.

Table 6.3: Summary of social issue categories that influence negotiation in e-procurement from the supplier perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Communication issues</td>
<td>Communication with procurers involves both manual and electronic systems. The communication media used to communicate with the university can involve phone conversations, facsimile, face-to-face discussion, and sometimes email. CE Company can communicate cooperatively with Technology University, provided that both parties understand how to use the communication media available. This is important in order to solve a problem that may arise during the procurement process. In this instance, if an issue related to selling goods, such as the price of goods, cannot be resolved electronically, then face-to-face contact is required.</td>
</tr>
<tr>
<td>2</td>
<td>Trust</td>
<td>Trust is another issue related to negotiation in e-procurement. Trust with customers is needed during negotiation, because should it exist, the problems often related to selling goods to customers can be easily overcome. For instance, if CE Company cannot match the delivery time as requested by the university, then the trust and long-term relationship established between the two parties can allow for the provision of extra time. In this case, the problem can be resolved because both CE Company and the university have a mutual understanding in regard to the difficulties faced by the trading partner at that particular time.</td>
</tr>
<tr>
<td>3</td>
<td>Culture</td>
<td>Culture is one of the issues that influences negotiation in e-procurement at CE Company. CE Company needs to understand the working culture of Technology University when it sells its goods and services to the university. For instance, if negotiation in selling goods and services with the university involves a price issue, then CE Company will try to negotiate with and accommodate the needs of the university.</td>
</tr>
</tbody>
</table>
Table 6.3: Summary of social issue categories that influence negotiation in e-procurement from the supplier perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Corporate social responsibility</td>
<td>Corporate social responsibility is an issue involved in negotiating with the university. Since the university does not yet have a formal policy on CSR, CE Company will help the university to incorporate the CSR issue in regard to the sale of quality paper. CE Company will accommodate the university’s needs by incorporating the CSR Division at CE Company that deals with this issue. The CSR Division at CE Company is the division that is responsible for dealing with issues such as the quality of paper and food and beverages (e.g., coffee) for the university.</td>
</tr>
<tr>
<td>5</td>
<td>Relationships with customers</td>
<td>Consideration of the relationship with customers is required in the e-procurement environment. This is to ensure that negotiations with customers can run seamlessly. In addition, a relationship with a customer must be maintained. For example, although CE Company has a three year contract with the university, the company still needs to negotiate in order to ensure that the university is satisfied with the service provided.</td>
</tr>
</tbody>
</table>

Five social issues influence negotiation in regards to e-procurement at Technology University from the perspective of the supplier. The communication between CE Company and Technology University is an essential issue in negotiation in e-procurement from the supplier’s perspective. Communication can be effective if both parties understand the importance of manual or electronic communication in negotiation. By maintaining good communication between these two parties, trust can be easily built because each party will have a mutual understanding regarding each partner’s business culture. Corporate social responsibility and a strong relationship with customers have become important issues in negotiation, because having a good relationship with its customers allows CE Company to inculcate Technology University in regard to CSR, as the university is still in the process of developing formal CSR policy. The following
section discusses negotiation in e-procurement at Technology University, through the ANT lens.

6.4 Analysis using Actor-network Theory

This section explains the case study of negotiation in e-procurement at Technology University by using actor-network theory. The concepts related to ANT as highlighted in Chapter 3 are applied in order to demonstrate the process of building a network in negotiation in e-procurement at Technology University.

6.4.1 Translation Process in Negotiation in E-Procurement at Technology University

The researcher synthesised the case study using the translation concepts to show the process of building a network in negotiation in e-procurement at Technology University. A brief description of negotiation in e-procurement at Technology University has been discussed. The systems that are used at Technology University include an e-tendering portal and an electronic order system. These systems are used to procure different types of goods and services for the university, as part of the sourcing process and in negotiation with trading partners. For instance, they are used in the procurement of office supplies and furniture. However, Technology University still uses the face-to-face method to negotiate with its trading partners.

The Supply Chain and Procurement Manager is the person who is involved in the negotiation process with trading partners. With help from the Procurement Group, the negotiation process can be effectively carried out with the trading partners. Suppliers are typically the main trading partner in the business negotiations, while other actors also have an indirect influence on the Supply Chain and Procurement Manager during the negotiation process. These actors include the Evaluation Panel, which includes representatives from outside the Procurement Group at the university, such as Deans from several university departments. However, there are other social issues that need to
be considered during negotiations in e-procurement at Technology University, in order to ensure that negotiations with trading partners are successful. The involvement of the actors in negotiations in sourcing in the e-procurement network can be shown as part of the translation process, which involves the three stages of problematisation, interressement and enrolment.

6.4.1.1 Building the Network – Problematisation

Negotiation at Technology University can be treated as the process of enrolment of various actors within the organisation into the network of suppliers. In order to ensure the success of negotiation, relevant actors have to be enrolled into the network, representing the new tactics of negotiation in the e-procurement environment. If the new tactics of negotiation in procuring goods and services in e-procurement are able to assemble in an actor network, wherein each important actor has passed through the obligatory passage point and has been successfully enrolled, then negotiation in e-procurement should be successful. Otherwise, it implies failure in the e-procurement negotiation.

If the actors involved in negotiation in e-procurement at Technology University are identified, then the Supply Chain and Procurement Manager plays the main role in carrying out negotiations. This manager therefore represents the emerging network. The Supply Chain and Procurement Manager is identified as a focal actor in this study; that is, he is the person responsible for identifying and enrolling other actors in the e-procurement negotiation. The Supply Chain and Procurement Manager is responsible for the procurement personnel in his department. Each individual in the Procurement Group has their own responsibilities in regard to handling procurement activities such as ordering goods, tendering goods, and undertaking day-to-day procurement operations. However, the Supply Chain and Procurement Manager is the person responsible for handling the negotiations with suppliers. As stated by the Supply Chain and Procurement Manager:
I have the responsibility for a group of nine people responsible for procurement within the university where, some of them are looking after the purchase order systems, the tendering system and the day-to-day management of procurement.

The Supply Chain and Procurement Manager has realised that other groups of people in the university are responsible for assisting him in the negotiation process. The Deans of the departments at the university are also involved in approving the amount purchased at Dean’s department. As stated by the Supply Chain and Procurement Manager:

The Head of department is a person responsible to approve the agreed value in procuring goods or services in his or her department. However, the final approval in purchasing goods is done by me before preparing the purchase order.

Another group of people involved in the negotiation process at Technology University is the Evaluation Panel. The Evaluation Panel includes representatives from outside the Procurement Group. Most of the time, the Evaluation Panel gives the Procurement Group full responsibility in making decisions regarding the selection of suppliers. Therefore, the Supply Chain and Procurement Manager is not the sole party responsible for handling the procurement and negotiation process, as there are other people involved in order to ensure that all the negotiation processes can be conducted effectively.

E-procurement tools are used at Technology University in order to procure goods and services. These tools are also used to assist the Supply Chain and Procurement Manager in his negotiation with the actors involved. However, the e-procurement tools can only be used partially to assist the Supply Chain and Procurement Manager during the negotiation process. This is because Technology University is still in the process of improving its procurement system. In addition, there are other issues, such as social issues, that influence negotiation in e-procurement at Technology University. Based on the description of identifying actors involved in negotiation in e-procurement, Table 6.6 presents a summary of the human and non-human actors involved at Technology University.
Table 6.6: Human and non-human actors involved in the negotiation process in e-procurement at Technology University

<table>
<thead>
<tr>
<th>Human Actors</th>
<th>Non-Human Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procurer</strong> –</td>
<td>Organisations involved in negotiation –</td>
</tr>
<tr>
<td>- Supply Chain and Procurement Manager</td>
<td>- Technology University</td>
</tr>
<tr>
<td>- Procurement Group</td>
<td>- CE Company</td>
</tr>
<tr>
<td>- Evaluation Panel groups</td>
<td>- University Faculties and Divisions</td>
</tr>
<tr>
<td>- Heads of Departments</td>
<td></td>
</tr>
<tr>
<td><strong>Supplier</strong></td>
<td>System operated –</td>
</tr>
<tr>
<td>- Manager of CE Company</td>
<td>- E-tendering portal</td>
</tr>
<tr>
<td></td>
<td>- Email</td>
</tr>
<tr>
<td></td>
<td>- Phone</td>
</tr>
<tr>
<td></td>
<td>- Face-to-face contact</td>
</tr>
<tr>
<td></td>
<td>- Facsimile</td>
</tr>
<tr>
<td><strong>Products procured</strong> –</td>
<td>Products procured –</td>
</tr>
<tr>
<td></td>
<td>- Office supplies</td>
</tr>
<tr>
<td></td>
<td>- Furniture</td>
</tr>
<tr>
<td></td>
<td>- Merchandise</td>
</tr>
<tr>
<td></td>
<td>- Computers</td>
</tr>
<tr>
<td></td>
<td>- Vehicle Leasing</td>
</tr>
<tr>
<td></td>
<td>- Travel Management</td>
</tr>
<tr>
<td><strong>Social issues influencing negotiation</strong> –</td>
<td>Social issues influencing negotiation –</td>
</tr>
<tr>
<td></td>
<td>- Culture</td>
</tr>
<tr>
<td></td>
<td>- Trust</td>
</tr>
<tr>
<td></td>
<td>- Relationships with supplier and client</td>
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<tr>
<td></td>
<td>- Corporate social responsibility</td>
</tr>
<tr>
<td></td>
<td>- Delivery time</td>
</tr>
<tr>
<td></td>
<td>- Communication issues</td>
</tr>
</tbody>
</table>

In building the actor-network in negotiation in e-procurement at Technology University, the Supply Chain and Procurement Manager suggested that one strategy to help achieve the goals of the actors could be the greater influence and involvement in decision-making from the Procurement Group. Naturally, this influence and involvement should relate to the spending of funds and the procurement of goods and services at the university. For
example, a supplier’s goal is to try to earn more profit. Thus, by having the Procurement Group more in control of the decision-making process of the negotiation, suppliers can expedite the process with fewer obstacles to achieve their goals. Doing this would allow the suppliers to avoid any social issues that may be obstacles limiting negotiation with the Supply Chain and Procurement Manager, such as those related to trust, culture and relationships with trading partners, in order to help them achieve their goals (refer to Section 6.5). More influence in decision-making, in regard to spending and procuring goods and services, is the obligatory passage point specified by the Supply Chain and Procurement Manager. Figure 6.3 represents how the Supply Chain and Procurement Manager, as a focal actor, frames the problems occurring in negotiation in e-procurement, while identifying other relevant actors that will affect the actor-network involved in negotiation in e-procurement at Technology University.

Figure 6.3: Problematisation for negotiation in the sourcing process between partners in e-procurement at Technology University
6.4.1.2 Building the Network – Interessement

The second step in translation involves convincing the actors to agree on the interests defined for them by the Supply Chain and Procurement Manager. The interest defined for them by the Supply Chain and Procurement Manager is to have more influence in decision-making regarding spending and procuring goods and services with the actors involved in negotiations in e-procurement.

Association with and enrolment of suppliers

The first part of negotiation at Technology University takes place between the Supply Chain and Procurement Manager and the suppliers. The Supply Chain and Procurement Manager is responsible for ensuring his decisions regarding procurement and the negotiation process with suppliers for the benefit of university are achieved. In order to ensure that the negotiation process runs smoothly between the trading partners, the procurement department needs to have more influence in the decision-making process. Trust can be easily built with the supplier through this approach, since the Supply Chain and Procurement Manager will have more time to discuss procurement matters. Furthermore, the Supply Chain and Procurement Manager can make decisions quickly without the need to wait for the approval of panel members regarding the procurement of goods or services.

Understanding the association with and enrolment of e-procurement tools as a procurement device

The Supply Chain and Procurement Manager needs to understand the importance of using e-procurement tools in assisting negotiation in order to procure goods and services. The purpose of using the system is to expedite the procurement process with the trading partners. However, the system cannot be utilised as a negotiation tool alone, due to the social issues influencing negotiation such as communication, trust and culture. As stated by the Supply Chain and Procurement Manager:
We also get involved with negotiation outside the e-procurement system when there is a need to solve the problem with the third party and we are playing a role of mediator by trying to reach an agreement between the two parties.

The Supply Chain and Procurement Manager needs to be alert to the capabilities of the system used in procuring and negotiating goods and services, in order to ensure the satisfaction of the system’s users. By knowing the inadequacies of the system used to fulfil requirements of the procurement process, such as contract management, the Supply Chain and Procurement Manager will be in a position to try and improve the system.

**Association with and enrolment of other departments**

The next part of negotiation takes place between the Supply Chain and Procurement Manager, and the Deans of other departments at Technology University. The Supply Chain and Procurement Manager will work with the Deans in order to ensure that negotiations and procurements run smoothly. As stated by the Supply Chain and Procurement Manager:

> A Head of Department, or somebody that has appropriate authority will approve the value of goods purchased by following the procurement procedures outlined by the Procurement Department.

Therefore, if the Supply Chain and Procurement Manager is provided with more responsibility in terms of decision-making, then the manager will be able to easily provide the information needed by the Deans in regard to the procurement process if any shortcomings occur.

**Association with and enrolment of Evaluation Panel**

The last part of negotiation takes place between the Supply Chain and Procurement Manager and the Evaluation Panel. The Evaluation Panel collaborates with the Supply Chain and Procurement Manager in selecting appropriate suppliers for the university. The Evaluation Panel consists of representatives from other departments outside of the Procurement Group. Thus, by having more influence in decision-making in regard to spending and procuring goods and services, the Supply Chain and Procurement Manager
can easily undertake negotiations with the Evaluation Panel because he will identify the strengths and weaknesses of potential suppliers for the university.

6.4.1.3 Building the Network – Enrolment

The actors involved in negotiation in e-procurement at Technology University are enrolled, through the influence of the Supply Chain and Procurement Manager, in decision-making processes regarding spending and procuring goods and services. They undertake these processes alongside other actors enrolled by the Supply Chain and Procurement Manager. One of the successful enrolments is through the trust by the Evaluation Panel in the Supply Chain and Procurement Manager in handling and making decisions in dealing with suppliers. As stated by the Supply Chain and Procurement Manager:

*The representatives from outside the procurement group at the evaluation panel will leave it up to us to negotiate with suppliers.*

Despite the actor-network created with the involvement of the Supply Chain and Procurement Manager, the suppliers, the Dean of Department, the Evaluation Panel and the system, e-procurement negotiation at Technology University still faces many problems related to negotiating with human actors. The factors influencing negotiation in e-procurement include a number of social issues (refer to Section 6.5). In addition, a number of non-human actors, including the products procured and the organisations involved, also influence negotiation in e-procurement.

The procurement tools used to assist the Supply Chain and Procurement Manager and the users of the system in procuring goods and services at the university impact on the social issues that may occur in negotiation as part of e-procurement. Figure 6.4 represents the actor-network for negotiation in e-procurement at Technology University. The actor-network shows the building of networks among human and non-human actors, the
complexity of the relationships among them, and the social issues that occur in the actor-network involved in negotiation in e-procurement.

![Diagram of Actor-network for negotiation in e-procurement at Technology University](image)

**Figure 6.4:** Actor-network for negotiation in e-procurement at Technology University

The networks that exist in negotiation in Technology University’s e-procurement network can be classified into a human network and a non-human network. Network relations can be established between human and human networks, between human and non-human...
networks, and between non-human and non-human networks. In the case of Technology University, the relationship between the Supply Chain and Procurement Manager and the supplier, and the Deans and the Evaluation Panel is an example of a network established between human and human actors. However, there is a need for establishing a network between human and non-human actors. This is to ensure all the actors involved in the e-procurement negotiation can liaise seamlessly. An example of a network between human and non-human actors is between the systems used to assist the procurer in the negotiation process.

Procurers need to understand how the e-procurement system can assist them in making their tasks easier, in particular for negotiation. The e-procurement system is available for the procurer to use. The users of the e-procurement system need to understand their roles in the e-procurement network to ensure the network created through the human and non-human relationship in the negotiation process remains stable. Another network exists between non-human and non-human actors. The determinants of the relationship between the social issues influencing negotiation in e-procurement depend on the type of products and services procured by Technology University that will impact the negotiation mediums used. Therefore, for negotiation in the e-procurement network to succeed, there is a need to understand the importance of networks created between human and non-human actors and also between non-human and non-human actors. This is because each of the networks created will ensure the network’s stability.

6.5 Summary

This chapter analysed and presented the case study of Technology University, specifically serving as a case study for the public sector. The case study reported on the Procurement Group at Technology University, while also discussing other related divisions, the university’s supplier, and the products procured by the university. In addition, the case study also reported on how procurement processes occur in the e-procurement environment, how negotiation between trading partners in e-procurement
occurs, how social issues can influence negotiation in e-procurement and how actors involved in negotiation in e-procurement can impact on business negotiations, from the perspective of actor-network theory.

E-procurement is a complex operation that includes the involvement of human and non-human actors. Negotiation in e-procurement at Technology University for procuring products is partially based on a manual system and an electronic system. Negotiation in e-procurement at Technology University involves not only trading partners, but also other parties that influence the negotiation process. In addition, the case study shows that procurers and suppliers need to understand and be aware of the importance of the social issues that influence negotiation in e-procurement. By understanding the influences of the social issues in e-procurement either as issues, or by treating them as one of the strategies used in assisting negotiation in e-procurement, the use of e-procurement can probably enhance collaboration among the stakeholders involved in business trading. The following two chapters describe the case studies of two organisations in the private sector, in order to study their negotiations in e-procurement.
Chapter 7 – Car Manufacturing Company

Case Study

7.1 Introduction

This chapter analyses the data collected from a private sector organisation and one of its trading partners involved in negotiation as part of the sourcing process in the organisation’s e-procurement network. This chapter commences with an overview of the background of the organisation in the case study, called Car Manufacturing Company (CMC). The chapter then continues with an explanation of the findings gathered from the interviews on the social issues that influence negotiation in the e-procurement environment from both the buyer and seller perspectives. Finally, an analysis using actor-network theory as a sensitising device is used in order to explore the phenomenon of negotiation in e-procurement at CMC.

7.2 Case Study Background

7.2.1 Organisational Structure of the Purchasing Division at CMC

CMC is located in a suburb in Melbourne, Australia. CMC is a leading automotive manufacturer that designs, engineers, manufactures and sells vehicles. CMC has extensive casting, engine and stamping facilities, as well as a product engineering centre. Its core products are the Car F and Car T. These are the main vehicles sold in the Australian market, as well as those exported to markets in nations including New Zealand, South Africa and Thailand. The personnel employed by CMC work in manufacturing, product development, purchasing, IT, sales and marketing, and finance. CMC also imports products from overseas such as exterior panels and engine components, as needed to assemble its vehicles. The Purchasing Division at CMC is responsible for procuring products.
The Purchasing Division is responsible for procuring specialised products such as exterior panels, electrical components and engine components for CMC vehicles. The Purchasing Division at CMC in Melbourne has two Purchasing Managers who are responsible for procuring products. One Purchasing Manager (Purchasing Manager 2) handles the procurement of exterior panels, and the other Purchasing Manager (Purchasing Manager 1) handles the procurement on electrical and engine components. Each Purchasing Manager has their own team, serving as groups of buyers who help them in procuring products. Under the supervision of Purchasing Manager 1, the groups of buyers work as a team. Each group of buyers is responsible for procuring different commodities within the most appropriate price range assigned to them by Purchasing Manager 1. Each group of buyers procures products from organisations on a list of preferred suppliers, as determined by Purchasing Manager 1. As the example for this study, the role of Purchasing Manager 1 in handling the procurement of electrical and engine components is used. Figure 7.1 represents the Purchasing Division structure at CMC.

![Purchasing Division Structure](Source Original)

The Purchasing Managers coordinate with each other and meet in order to discuss the products procured. This helps to ensure a continuous supply of products from the
suppliers, without any disruption to the process of assembling vehicles. This coordination is essential, due to the arrangement where each division procures different parts of the vehicles being manufactured. Therefore, in order to assemble a vehicle, all the parts procured must be ready and delivered on schedule. The Purchasing Managers also coordinate with other Purchasing Managers that have similar responsibilities in procuring products in other regions of CMC. The purpose of coordinating with other regions is to ensure that CMC in Australia will receive information about products in the market that utilise cutting edge technology. In procuring products in the market, CMC deals with both international and local suppliers. The following section discusses the products that CMC procures from its suppliers.

7.2.2 Products and Services Procured by CMC

The suppliers that work with CMC in Melbourne operate both internationally and locally. Only a few suppliers come from Melbourne, or ship interstate from Adelaide and Sydney. Most local suppliers have just-in-time facilities designed to evaluate and deliver products to CMC within a short time period. Overseas suppliers are from Japan, China, Europe, India and the United States. CMC works with multiple suppliers so that if one supplier fails, CMC can still maintain its operations. As stated by Purchasing Manager 1:

We will maintain a similar supplier from the US, Europe and Asia to procure our products, because if other existing suppliers stop their business due to financial distress, union distraction or a lack of supplies products, we still can continue with our operations.

There are two types of product components procured by CMC, namely, production components and non-production components. The main components that are procured by Purchasing Manager 1 are production components. These are the components that are used to assemble vehicles, including exterior panels and engine components. The non-production components, as procured by other procurement offices, include the robots used to work with the assembly plant, and necessary office equipment. Sixty to seventy
percent of the production components for vehicles are made by sources outside of CMC, typically located in China and India. This means that sixty to seventy percent of the products procured are imported from overseas and cannot be manufactured in Australia. This is because of the low labour costs devoted to manufacturing the components overseas, which counteract the costs of shipping the components to CMC in Australia.

Umicore Marketing Services is one supplier to CMC, and is based in Melbourne. Umicore Marketing Services is the sales and marketing branch of the Umicore business that carries inventory in Australia for delivery to end-users. Umicore’s relationship with CMC is maintained through the automotive catalyst division at Umicore Marketing Services. The main product supplied to CMC is the automotive catalyst in automotive emission abatement systems for the company’s vehicles. The automotive catalyst utilised in fuel cells can lead to a future generation of environmentally-friendly cars. The business relationship between CMC and Umicore Marketing Services has operated since 2001.

Each trading partner, either Purchasing Manager 1 at CMC or the General Manager at Umicore Marketing Services, has their own roles in ensuring that negotiations can operate effectively. This case study examines the responsibilities of the managers at both organisations. Table 7.1 summarises the roles of Purchasing Manager 1 at CMC in Melbourne and the General Manager at Umicore Marketing Services as a supplier for CMC.
Table 7.1: Description of the roles and responsibilities of participants involved in e-procurement at CMC

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Group</th>
<th>Organisation</th>
<th>Job Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing Manager 1</td>
<td>Procurer</td>
<td>CMC</td>
<td>• Coordinate the group of buyers that work directly in his division in regards to procuring goods;                                               • Ensure a continuous supply of products to the manufacturing plant, without any disruptions in supplies;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Maintain a strong relationship with suppliers in order to efficiently reduce prices, and receive more competitive and higher-quality products;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Coordinate affiliates within other regional and global organisations to ensure that the goods procured are cutting edge;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Ensure the high quality of the products procured.</td>
</tr>
<tr>
<td>General Manager</td>
<td>Supplier</td>
<td>Umicore</td>
<td>• Develop business with other companies including CMC.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Administer current business with CMC and other customers;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Report performance to the parent company based in Belgium;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Meet regularly with the Purchasing Manager at CMC in order to discuss business opportunities and current business activities.</td>
</tr>
</tbody>
</table>

The description of the roles and responsibilities of both managers above shows their responsibilities in ensuring successful negotiation in e-procurement. The main role and responsibility of the CMC Purchasing Manager 1 is to ensure that a continuous supply for operation occurs through coordinating and maintaining relationships with the staff at CMC and its suppliers. However, the main role and responsibility of the General Manager at Umicore Marketing Services is to sustain business with trading partners. The following section discusses the use of e-procurement in CMC.

### 7.2.3 E-Procurement at CMC

The procurement process at CMC commences when there is a need to design a new car, which involves a requirement for new products to replace an existing car model. For example, as Purchasing Manager 1 stated: “When there is a new car design to be built in
Australia, a new brake system will be requested to be sourced because the technology for the existing brakes is not sufficient to go forward". In this case, there is a need to procure a new product, which will involve a process of selecting an appropriate supplier. There are several processes involved in choosing an appropriate supplier. The selection of the right supplier as a trading partner commences with the Purchasing Team submitting a request to the Engineering Team as the responsible team to prepare the specifications of the product to be procured. The Engineering Team prepares the specification of the products to be procured, namely the statement of works. The statement of works prepared by the Engineering Team contains a definition of the amount of product requested from the supplier, the work needed and the concept design. After the Engineering Team prepares the statement of works, a new product specification needs to be estimated based on the product’s budgeted price. The Purchasing Team then submits the statement of works as prepared by the Engineering Team to the Cost Estimation Team, in order to prepare a costing for the product that will be procured. Finally, the Purchasing Team makes a decision to select an appropriate supplier to deal with. Figure 7.2 represents the procurement process in the Purchasing Division at CMC.

![Diagram](image)

Figure 7.2: Procurement process of the Purchasing Division at CMC

In selecting an appropriate supplier, the Purchasing Team works together with other teams from other divisions in order to ensure that the procurement process runs smoothly.
The Purchasing Team works together with the Engineering Team and the Cost Estimation Team before selecting an appropriate supplier, based on the statement of works prepared by the Engineering Team, and the budget for the products as prepared by the Cost Estimation Team.

In selecting an appropriate supplier, the Purchasing Team sends a request for quotation to a potential supplier. The RFQ is of a standard format, which is provided to the supplier. The information includes any necessary volumes offered by the supplier, exchange rates, and the commercial conditions that the supplier needs to meet in order to support the quotation. The RFQ is attached together with the statement of works as prepared by the Engineering Team. The RFQ and the statement of works are then be sent to potential suppliers via email. In choosing an appropriate supplier for the product, the Purchasing Team conducts a search on the potential suppliers that can provide the products needed. These products should be specifically in-line with the advanced technology of the new product required. The detail of the product specification can be obtained from the statement of works and the budget. After conducting the search, some appropriate suppliers are then identified.

In selecting a supplier, the Purchasing Team looks at the quote that was sent by the potential suppliers. The main detail that the Purchasing Team is concerned with is whether the details provided by the supplier match those on the statement of works provided by the Engineering Team. The suppliers need to fill in a provided template with information including the itemised costs, profits and overheads, so that the Purchasing Team will gain a good understanding of the offer being made by the supplier in regard to pricing. The purpose of doing this is to ensure that choosing the right supplier will be made easier.

Before making the final decision in regard to choosing an appropriate supplier as a trading partner, the Purchasing Team has to make a comparison of the information provided by the potential suppliers who sent back quotes. If the Purchasing Manager
thinks that the information provided by the supplier is insufficient, he will request that the supplier provide more information. This helps to ensure that all the quotes are comparable and that the final decision made in determining the appropriate supplier will be equitable.

The procurement process at CMC Melbourne utilises e-procurement. E-procurement was implemented at CMC in 2004, and prior to that, email was used to interact with suppliers. Several types of e-procurement systems are used to procure products at CMC. The different type of systems used depends on the type of products being procured. As explained by Purchasing Manager 1:

*The products that I buy, specifically for the components in the vehicles, tend to be specific. The RFQ was a suitable system used to procure products from suppliers, but I do not think that the reverse auction was a suitable system used to procure specific products. However, if the company procured products like robots to work in the assembly plant, then an online auction would be more appropriate to use.*

The communication between the Purchasing Team and suppliers occurs through email. For example, the RFQ and statement of works are issued to the supplier via email. The statement of works normally requires a large amount of memory, which will be backed up using a CD. If local suppliers are involved, then they will collect the statement of works directly from CMC.

There have been several benefits achieved through the implementation of e-procurement systems at CMC. One of the benefits is the shorter time needed for delivering information. Through email, the supplier can receive information within half an hour. This can be compared to the previous process wherein the information would have reached the supplier in two to three days, and by the time the supplier would have opened the mail another day would have passed by. The actual exchange of information would have taken an additional two days. Another benefit of utilising e-procurement is the expediting of the process used to change a product to suit a vehicle. The changing of a product to match a vehicle manufacturing process will result in the faster delivery of the
vehicle to the customer. The work can be done effectively by procuring a new product, and by revising the product quickly by utilising the current technology available on the market. As stated by the Purchasing Manager:

*It would have taken probably three and a half years to launch a new model currently, as compared to ten years ago when it would have taken five years. Fifteen years ago it would be taken six years.*

Consequently, for CMC to gain benefits from using e-procurement in purchasing products, Purchasing Manager 1 needs to know the importance of the negotiation process with trading partners, as conducted via e-procurement. The next section discusses the e-procurement negotiations at CMC.

### 7.2.4 Negotiation in E-Procurement at CMC

Negotiation between business partners is an essential step in e-procurement. Negotiation with suppliers commences when a request for quotation is sent out to a potential supplier. The potential supplier in this case has been pre-determined by the Purchasing Team, through research conducted for the purpose of reaching suppliers in the market with the current technology required in car manufacturing. As stated by the Purchasing Manager:

*We were trying to develop a role for a single professional who would be the subject matter expert for our products, to search for [suppliers] across the world, who are cutting edge, and can provide products for the best price. When identifying who will be our suppliers for the required products, we conducted research and identified two to six suppliers that we thought were using cutting edge technology. They were the ones who develop the required product all the time, and who can support us with the latest technology needed in manufacturing cars.*

The list of potential suppliers, as determined from the conducted research, will be approved within the purchasing organisation by the Purchasing Team. They represent the designated suppliers that CMC can regularly approach. The pre-determined number of
suppliers can be approached based on the statement of works regarding the products as specified by the Engineering Team. As stated by the Purchasing Manager, “The statement of works goes out to a pre-determined number of suppliers”. The statement of works will be attached with the RFQ to be sent to the pre-determined suppliers.

Despite the fact that the RFQ is sent to pre-determined suppliers, the Purchasing Team still needs to have additional information regarding the budget for the products to be procured. The Cost Estimation Division is the team responsible within the country for preparing the budget. The negotiation continues with the Purchasing Team receiving quotes from pre-determined suppliers. The pre-determined suppliers will quote the price that they were willing to offer and provide the quotes to CMC. As stated by Purchasing Manager 1:

> We get the data back, so for instance we have three suppliers that provide us quotes for the product, which should be no more than 100 dollars. So what happens is that we get three quotes for $105, $110 and $115, which inevitably could happen.

The Purchasing Team will send back the quote to the pre-determined suppliers if the price offered is not near the price estimated, and inform them of the target price that is needed for the transaction to continue. The quotes will be sent back to all the suppliers that produced a quote to ensure that all the quotes are comparable, before a final selection is made regarding the appropriate supplier. The purpose of making a comparison amongst the pre-determined suppliers is that the Purchasing Team should normalise all quotes. As stated by Purchasing Manager 1: “We should normalise all quotes because the suppliers could come from China and provide a good price, and the other supplier is from Melbourne and offers faster delivery time”. Through an understanding of the conditions of the relevant quote, the Purchasing Team will make a decision based on the estimated budget price. The Purchasing Team will have further discussions with a nominated supplier about the price offered. Discussions continue until a mutual
agreement is met. Figure 7.3 represents the negotiation in the sourcing process in e-procurement at CMC.

![Diagram of negotiation process](image)

**Figure 7.3: Negotiation in the sourcing process in e-procurement at CMC**

In choosing a supplier, Purchasing Manager 1 uses the RFQ system to compare the prices offered and the estimates. Based on the price offer, Purchasing Manager 1 negotiates with the pre-determined suppliers to get a consensus agreement.

The discussion between the Purchasing Team and the nominated suppliers occurs via email, phone calls and face-to-face contact. The communication devices vary during the process of dealing with the suppliers. As stated by Purchasing Manager 1:

*The first correspondence with a supplier is through email...and when possible we may set-up a phone call. If possible we will have a face-to-face conversation because that is the way we get the best interaction, and to most effectively negotiate.*
Although face-to-face contact is the best way to communicate with suppliers, email is another preferred form of communication with suppliers. According to Purchasing Manager 1 “One thing that I found by talking to our people about the suppliers, is often I see email as a better option for communication. That is the first form of communication, and later we use other forms of communication”. In the opinion of Purchasing Manager 1, sometimes it is important to communicate with the suppliers by using other types of communication, as the use of email sometimes does not get the desired result:

I think sometimes what is more important is to pick up the phone and actually talk to the supplier that you trying to deal with, in order to resolve issues...If that does not resolve anything, we then ask them to come in and meet with us face-to-face.

Face-to-face communication works well with local (Victorian) suppliers, because they could be located nearby. However, with overseas and inter-state suppliers, other types of communication are more effective. The Purchasing Manager stated that “We can set-up an audio call very well and we have the ability to conduct conference calls”; he finds that speaking to someone is more personal. Likewise, he can sometimes understand more from hearing what a person says, rather than through reading. In addition, for the overseas suppliers such as those from the US, China, India and South Africa that support CMC, the forms of communication that assist the Purchasing Team in negotiation with suppliers tend to be electronic. As stated by Purchasing Manager 1:

I find it better to communicate via the phone. However, sometimes to communicate, it is quicker via email as sometimes the time zone does not link up. By sending an email at the end of your day, it might be the start of someone else’s day. I generally find that the better way to [negotiate].

The use of communication devices is one issue that influences negotiation in the sourcing process between the Purchasing Team and suppliers. However, there are other issues that influence negotiation in the sourcing process in e-procurement between trading partners. The issues influencing negotiation are discussed further in the following section.
7.3 Issues that Influence Negotiation in E-Procurement at CMC

This section discusses the issues influencing negotiation in e-procurement from two different perspectives, specifically the procurers at CMC and the suppliers. A number of related categories emerged from an analysis of the interviews regarding the issues that influence negotiation in the e-procurement environment at CMC.

7.3.1 Issues that Influence Negotiation in E-procurement at CMC, from the Procurer Perspective

Ten categories emerged from an analysis of the interviews, representing the social issues and other issues that influence negotiation in e-procurement at CMC. Summaries of the categories for social issues and other issues are provided in Table 7.2 and Table 7.3, respectively.
Table 7.2: Summary of social issues categories influencing negotiation in e-procurement from the procurer perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1   | Supplier’s offers | The supplier’s offers refer to the products that will be traded by the supplier. The products offered need to be up-to-date with the current technologies. The products procured will be evaluated based on certain criteria.  

As stated by the Purchasing Manager, “We also evaluate what is offered in regards to product features, so if someone is not offering the total package then we have to go back to them and request a detailed explanation”.

| 2   | Trust          | Trust is about a commitment made between trading partners in business, in which each partner needs to keep their promise based on the discussion conducted during the negotiation process. The conversation either with the suppliers or between divisions has to be backed-up with a confirmation in writing, which normally comes in a PDF format so that the information cannot be altered.  

As stated by the Purchasing Manager, “When we do have a face-to-face negotiation, some back-up through written confirmation actually occurs. If there is any change in personnel, it is available for everybody to see”.

|
Table 7.2: Summary of social issues categories influencing negotiation in e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Culture</td>
<td>The social issue of work culture in negotiation is about accommodating different cultures, with the purpose of working well with the supplier and being respectful.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>As stated by the Purchasing Manager, “Working with Japan, it is important for us to understand how we were undertaking business deals and how they like to do business deals, because we have to be very respectful with the way they work”.”</td>
</tr>
<tr>
<td>4</td>
<td>Maintaining a relationship with the supplier</td>
<td>Maintaining a relationship with suppliers means giving them an equal chance to conduct business with CMC. There is no limitation preventing pre-determined suppliers from rebidding after they have received the target costs required by the Purchasing Team. The Purchasing Team gives the supplier alternatives to further consider the offer.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>As stated by the Purchasing Manager, “When the supplier comes back with a quote, let’s say, supplier A with 120 dollar and supplier B with 110 dollars, we compare them with our target costs”.</td>
</tr>
<tr>
<td>5</td>
<td>Quality of the performance of the suppliers</td>
<td>The performance of the chosen supplier is important, irrespective of whether they are an existing or new supplier. If it is a new supplier that the Purchasing Team does not have any history with, the Purchasing Team will conduct research regarding the quality of the supplier to make sure that they have a good track record with customers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>As stated by the Purchasing Manager, “Sometimes we might find quotation issues that suppliers have, that they are less than what we want, and that they try to under-price the quote by producing less than what had been previously requested. We always make sure that the quotes provided by the supplier are considered and compared properly”.”</td>
</tr>
</tbody>
</table>
Table 7.2: Summary of social issues categories influencing negotiation in e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| 6   | Corporate social responsibility       | Corporate social responsibility is another issue that CMC is concerned with in regards to negotiating with suppliers. When the Purchasing Manager writes the product business plan in order to choose the company that they want as a new business partner, the Purchasing Manager will request the supplier’s product that utilises the product quality and technology needed to maintain a ‘clean environment’.

As stated by the Purchasing Manager, “In order to pick suppliers that are right for our company, the buyer will conduct an assessment of suppliers that complies with corporate social responsibility in business”.

| 7   | Coordination between divisions        | Coordination between divisions at CMC is important in ensuring that negotiations with suppliers run smoothly. Each division is responsible for performing particular tasks. For instance the Engineering Team needs to prepare the engineering documentation, to be used as a reference for selecting suppliers. Based on the prepared statement of works, the Cost Estimation Team will work out the budget for the products that need to be procured, which will then become a reference for the Purchasing Team while they select an appropriate supplier. Therefore, each team involved needs to perform their own tasks effectively, in order to ensure that negotiation with suppliers can take place effectively. |
Table 7.2: Summary of social issues categories influencing negotiation in e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| 8   | Communication media           | Communication media is an important form of technology needed to approach suppliers. Different devices are used to communicate with trading partners, assisting the Purchasing Manager to negotiate effectively.  

As stated by the Purchasing Manager “In negotiating prices for products procured, we use different approaches to communicate with our nominated suppliers. In the first phase we communicate via email. If we cannot reach a conclusion through this means, then we set up a phone call. If there is a need, then we will have a face-to-face discussion, because that is the best way of negotiating to reach an agreement by both parties”.

| 9   | Awareness in choosing suppliers | The awareness needed in selecting appropriate suppliers is a main concerned of CMC, because the suppliers to CMC might also be a supplier to a competitor.  

For instance, as stated by the Purchasing Manager “We seldom support or source someone that supports our competitor, because they could jeopardise our supplies if they decided not to support us. Therefore, we have to be careful and selective in identifying our suppliers”.

There are nine categories of social issues that influence negotiation in e-procurement at CMC from the procurer’s perspective. These include the supplier’s offers, trust, culture, the maintenance of relationships with suppliers, the quality performance of supplier, corporate social responsibility, coordination between divisions, communication media and the awareness needed in choosing suppliers. Out of the nine social issues that influence negotiation in e-procurement at CMC, six of them deal directly with suppliers. This is because CMC is one of the leading automotive companies in Melbourne, and thus it needs to ensure that the quality of the vehicles it produces is consistent with the cutting edge of technology. In order for CMC to meet this goal, it needs to choose quality suppliers that can deliver products on time, that have good financial performance, that
offer good prices for the products sold, and whose products meet the specification requirements for the vehicles being produced. There are other issues also involved in negotiation in e-procurement at CMC as presented in Table 7.3.

Table 7.3: Summary of other issue (by category) influencing negotiation in e-procurement from the procurer perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Target price or target costs</td>
<td>The target price or target cost of products procured is a major issue that influences negotiation in e-procurement at CMC. This is because the types of products procured by CMC include customised or specialised products such as brake systems. The target price is set-up based on the concept and specification of the products to be procured, as prepared by the Engineering Team who is expert in regard to each of the commodities being procured. As stated by the Purchasing Manager, “Most buyers know the expected product costs. When the buyers need to discuss costs with the nominated supplier, they have in their mind what proper costs the nominated supplier must meet. For instance, if the supplier negotiates the price of 120 dollars then they would not get signed up within the company, so they have to instead strive for the 100 dollar mark”.</td>
</tr>
</tbody>
</table>

CMC sets its own target price on the products procured before negotiations with the supplier commence. The purpose of setting up the target price that will be negotiated with the supplier is due to bargaining process that the Purchasing Manager will undertake with the nominated supplier. The Purchasing Manager needs to know the target price before nominating the suppliers because different suppliers will provide different prices to sell their products. Thus, to ensure the negotiation process runs smoothly in nominating appropriate suppliers, the Purchasing Manager must have his own target price to assist him in the selection process. The Purchasing Manager needs to follow the target price provided by the Cost Estimation Team in negotiating with suppliers because the team has the expertise in costing. In addition, since the product procurement is based on the specifications prepared by the Engineering Team as the product experts at CMC, the
Purchasing Manager needs to follow the target price proposed by them to ensure CMC procures products at the right price with the right supplier and the right products. Therefore, the target price is another issue influencing negotiation in e-procurement at CMC as well as the social issues as influencing factors. The following section discusses the issues that influence negotiation in e-procurement, specifically in regard to CMC, from the supplier perspective.

7.3.2 Social Issues that Influence Negotiation in E-Procurement at CMC from the Supplier Perspective

Seven categories emerged from an analysis of the interviews and the descriptions undertaken during this part of the study. Each category has been identified based on an interview with the representative from Umicore Marketing Services (the General Manager). A summary of the categories is provided in Tables 7.4 and 7.5.

Table 7.4: Summary of the social issue categories that influence negotiation in e-procurement from the supplier perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Communication</td>
<td>Communication is an essential tool used to negotiate with trading partners and also with the parent company. There is a variety of communication tools used in negotiation. E-procurement not only consists of sale tools to be used in business, as highlighted by the General Manager of Umicore Marketing Services: “I do not think you can get a lot of business by using e-procurement as your only set of sale tools. You still need to visit a customer and build a relationship with them”. In addition, other software is needed to support the business. For example, the accounting software, MYOB, is used as a tool to control stock, and to submit reports to the parent company in order to inform them about performance. By having access to all types of communication tools, which aids the arrangement of business deals with trading partners, negotiations can run effectively.</td>
</tr>
</tbody>
</table>
Table 7.4: Summary of the social issue categories that influence negotiation in e-procurement from the supplier perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| 2   | Culture                      | The business culture at Umicore Marketing Services is centred around the organisation getting to know its customers. Getting to know customers means understanding what they want, and acknowledging the type of business that the customers deal with. By understanding the preferences of customers, Umicore will find them easier to negotiate with.  
   |                              | As stated by Umicore’s General Manager, “When we trade with CMC we understand what they want because we know the company very well. However, this relationship took a long time to develop; to understand what they want and to understand their thinking”. |
| 3   | Trust                        | Trust is related to matters of intellectual property, when it concerns sharing and distributing high-level information between trading partners. If information is not meant to be shared, then this should be respected.  
   |                              | As stated by the General Manager: “We have to make sure that the information we provide is clear and completely transparent, a requirement for CMC to be able to have business with us. There is a high level of information that cannot be distributed, because it feels important so that it is not distributed”. |
| 4   | Relationship with customers  | Building up the relationship with customers means developing a long-term relationship and a partnership in order to try to win business. In addition, trying to win a business is where a partnership starts. As stated by the General Manager: “Where you have to develop everything towards the degree to trust to each other, you have to meet regularly and discuss regularly, and that is all a part of our business”. |
Table 7.4: Summary of the social issue categories that influence negotiation in e-procurement from the supplier perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Corporate social responsibility</td>
<td>Umicore Marketing Services needs to supply products to CMC that comply with the standard set by CMC. This is to ensure that a product sold to a company should be good for the environment. Environmentally sustainable products can reduce the pollution in the city, because the air that comes out of the exhaust is cleaner. Therefore, corporate social responsibility is one of the issues that influence negotiation when dealing with trading partners.</td>
</tr>
<tr>
<td>6</td>
<td>Rules and regulations</td>
<td>Umicore Marketing Services needs to comply with government regulations when supplying its products to customers. Governments have setup rules and regulations that need to be followed by the company. Therefore, Umicore Marketing Services needs to supply products to CMC that match government regulations. In addition, before commencing a deal with CMC, Umicore Marketing Services needs to go through the CMC qualification process to ensure that the company is following the rules and regulations.</td>
</tr>
</tbody>
</table>

There are six categories of social issues that influence negotiation in e-procurement at CMC from the supplier’s perspective. Most of the social issues identified are similar to those highlighted by the procurer, including trust, culture, corporate social responsibility, communication issues and relationships with customers. However, one social issue that differs from the procurer perspective include rules and regulations. Umicore Marketing Services needs to follow the rules and regulation of its parent company before selling products to CMC. At the same time, in order for Umicore to sell products to CMC, Umicore needs to follow certain rules and regulation as also stated by CMC. This helps to ensure that the products sold meet all the criteria required by both parties.

Besides social issues as influencing factors in negotiation in e-procurement, there is another issue that also influences negotiation at CMC, which is demand forecasting.
Table 7.5 presents a summary of demand forecasting as another issue influencing negotiation in e-procurement at CMC.

Table 7.5: Summary of demand forecasting as another issue that influences negotiation in e-procurement from the supplier perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1.  | Demand forecasting | Demand forecasting is an issue that influences negotiation with trading partners. Forecasting is not something that is set in concrete. Forecasting is a best guess’, and the forecasts made by Umicore Marketing Services are determined by the market forces that indicate how much customers will order. However, sometimes there is an overstock of inventory on the shelf, and normally Umicore will have meetings to discuss this with customers.  

As stated by the General Manager: “We have no control over changes in demand from our customers after the purchasing forecast has been made and submitted to Umicore’s parent company of Umicore, through which products are delivered to our branch”.

Demand forecasting is another issue that the supplier believes can influence the negotiations conducted with the procurer through e-procurement. This is because demand forecasting is unpredictable and is determined by the market force. This can influence negotiation in e-procurement from the perspective of the availability of products to sell to customers. If the demand to procure products is higher, the supply of products is lower; this will cause a problem in the negotiation process and vice versa. Based on the description and analysis of the case study of negotiation in e-procurement at CMC, the following section explains, through the actor-network theory perspective, how negotiation in e-procurement with CMC operates.
7.4 Analysis using Actor-network Theory

Actor-network theory is used to describe and analyse this case study of negotiation in e-procurement, particularly in regard to CMC as a private sector organisation. The concepts used in ANT in Chapter 3 are applied to show the process of building a network in negotiation in e-procurement at CMC.

7.4.1 Translation Process in Negotiation in E-Procurement at CMC

The translation process is used to show the process undertaken in building a network in negotiation in e-procurement at CMC. In assisting the researcher to synthesise the case study using the translation concepts, a brief description of negotiation in e-procurement at CMC has been discussed. The system used at CMC to communicate with the supplier operates through a system referred to as the “request for quotation”. This system is used because it is appropriate for CMC in procuring specific types of products used for manufacturing cars. Email is another type of communication medium used in negotiation in e-procurement at CMC. However, face-to-face contact is used in negotiations, in particular with local suppliers, while audio calls or conference calls are used for foreign suppliers. Purchasing Manager 1, with the support from his group of buyers, is the person responsible for conducting negotiations with the suppliers. In order to ensure that negotiations between Purchasing Manager 1 and suppliers succeed, other actors are involved in assisting the procurement process. Those actors include the Engineering Team and Cost Estimation Team. Furthermore, social issues need to be considered as influencing factors in the negotiation in e-procurement undertaken at CMC with suppliers. The involvement of actors in negotiation in e-procurement, and the building of the network amongst actors can be demonstrated through the translation process and its three stages of problematisation, interessement and enrolment.
7.4.1.1 Building the Network – Problematisation

The researcher synthesised negotiation at CMC as the process of associating various actors in the organisation into a network of suppliers. To ensure the success of negotiation, the actors involved need to connect in the network that presents new tactics in negotiation in e-procurement. With new tactics proposed, the actors can successfully join the actor-network by passing through the obligatory passage point, in order to ensure that the negotiation in regard to the e-procurement is a success. The success of the association of an actor-network amongst the actors involved suggests that the negotiation in e-procurement would be a success. Otherwise, it implies failure in the e-procurement negotiation.

In recognising the actors involved in negotiation in e-procurement at CMC, Purchasing Manager 1 is the person responsible for carrying out negotiations, and for developing the networks. The Purchasing Manager from the Purchasing Division is the focal actor in this case study as the individual who builds a network with the actors involved in negotiation in e-procurement at CMC. The Purchasing Manager works together with his group of buyers in the Purchasing Division to select an appropriate supplier for procuring products. Once an appropriate supplier has been chosen, the Purchasing Manager will negotiate with the supplier in procuring the products. Before selection and negotiation can be undertaken, the Purchasing Manager requires a specification of the products that will be procured. This will assist him in reaching a decision with the supplier. In order to get the specifications of the products to be procured, other actors will be involved in helping the Purchasing Manager.

The actor involved in preparing the specification of the products to be procured is the Engineering Team. The specification of the products essentially serves as a statement of works regarding the product specifications. The Engineering Team works together with the Purchasing Manager in order to ensure that the products procured meet all the criteria needed for the assembling of the cars. The statement of works is an important document
designed to ensure that the Purchasing Manager can effectively negotiate with the supplier. The statement of works document is not the only document required by the Purchasing Manager in order to make a decision regarding supplier selection. Other documents are also needed. In order to prepare these other documents, another actor is involved in assisting the Purchasing Manager, namely, the Cost Estimation Team.

The Purchasing Manager needs to work with the Cost Estimation Team in order to prepare a budget for the products to be procured. The purpose of preparing the budget is to ensure that later negotiations with suppliers will be more efficient, because the Purchasing Manager knows the set target price before dealing with the suppliers. Thus, in order to ensure that negotiations with the supplier run smoothly, the Purchasing Manager needs to have all the documents and information required in regard to the product being procured. Therefore, negotiation not only occurs between the Purchasing Manager and the supplier, but also between the Purchasing Manager and other groups of people from other divisions at CMC, such as the Cost Estimation Team. As stated by the Purchasing Manager:

We work together with the other divisions in preparing the documents needed to procure products. For instance, the Cost Estimating Team will prepare a budget for us regarding the product to be procured.

Once all the documents required are ready, the Purchasing Manager searches for the appropriate supplier to deal with. When selecting suppliers, the Purchasing Manager uses the RFQ system as one of the e-procurement tools for negotiating with suppliers. The RFQ and email systems are the communication devices used to assist the Purchasing Manager in expediting negotiations in e-procurement. The RFQ and the email systems can be considered as another actor involved in negotiation in e-procurement at CMC. Although the Purchasing Manager has used the systems to expedite the procurement process, there are other factors that need to be considered that will influence negotiation in e-procurement, including social issues and other issues. Based on the analysis of the
actors, Table 7.6 presents a summary of the human and non-human actors involved in negotiation in e-procurement at CMC.

Table 7.6: Human actors and non-human actors involved in the negotiation process in e-procurement at CMC

<table>
<thead>
<tr>
<th>Human Actors</th>
<th>Non-Human Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal human actors (procurer)</td>
<td>Systems operated</td>
</tr>
<tr>
<td>• Purchasing Manager</td>
<td>• RFQ system</td>
</tr>
<tr>
<td>• Purchasing Team</td>
<td>• Email</td>
</tr>
<tr>
<td>• Engineering Team</td>
<td>• MYOB (accounting software)</td>
</tr>
<tr>
<td>• Cost Estimation Team</td>
<td>• Audio conferencing</td>
</tr>
<tr>
<td></td>
<td>• Phone conversations</td>
</tr>
<tr>
<td></td>
<td>• Face-to-face contact</td>
</tr>
<tr>
<td>Internal Human Actors—Supplier (Umicore Marketing Services)</td>
<td>Products procured</td>
</tr>
<tr>
<td>• Distributor (Supplier)</td>
<td>• Exterior panels</td>
</tr>
<tr>
<td>• Parent Company</td>
<td>• Engine components</td>
</tr>
<tr>
<td></td>
<td>• Automotive catalysts in automotive emission abatement systems for vehicles</td>
</tr>
<tr>
<td>External Human Actors—Supplier (Umicore Marketing Services)</td>
<td>Social issues influencing negotiation</td>
</tr>
<tr>
<td>• Distributor (Supplier)</td>
<td>• Target price or target costs</td>
</tr>
<tr>
<td></td>
<td>• Supplier’s offers</td>
</tr>
<tr>
<td></td>
<td>• Trust</td>
</tr>
<tr>
<td></td>
<td>• Culture</td>
</tr>
<tr>
<td></td>
<td>• Sustainability of relationships</td>
</tr>
<tr>
<td></td>
<td>• Quality performance of suppliers</td>
</tr>
<tr>
<td></td>
<td>• Corporate social responsibility</td>
</tr>
<tr>
<td></td>
<td>• Coordination between divisions</td>
</tr>
<tr>
<td></td>
<td>• Communication media</td>
</tr>
<tr>
<td></td>
<td>• Awareness in choosing suppliers</td>
</tr>
<tr>
<td></td>
<td>• Communication/Interaction</td>
</tr>
<tr>
<td></td>
<td>• Relationship with customers</td>
</tr>
<tr>
<td></td>
<td>• Rules and regulations</td>
</tr>
<tr>
<td></td>
<td>• Demand forecasting</td>
</tr>
</tbody>
</table>

In building the actor-network in negotiation in e-procurement at CMC, the Purchasing Manager suggested that each commodity or product purchased is handled by one expert,
in order to ensure successful negotiation in e-procurement. This assists all the actors involved in negotiation, so that they may more easily achieve their goals. For example, a supplier’s goal is to maintain business with CMC for profit purposes. Achieving this goal is easier if the supplier could deal with a product expert in the Purchasing Division, in order to expedite the negotiation process since that particular person is responsible for the product procured. By doing so, a supplier can mitigate the impact of social issues and other issues that may influence negotiations with the Purchasing Manager, such as trust, culture, target costs, demand forecasts, in order to achieve their goals (refer to Sections 7.2, 7.3, 7.4, 7.5). Figure 7.6 represents how the Purchasing Manager, as a focal actor, frames the problems that occur in negotiation in e-procurement, and identifies other relevant actors that will affect the actor-network in negotiation in e-procurement at CMC.

![Diagram](image_url)

**Figure 7.4:** Problematisation for negotiation in the sourcing process between partners in the CMC e-procurement network
### 7.4.1.2 Building the Network – Interessement

The second step in translation is interessement, which involves convincing other actors to agree on the interest defined by the Purchasing Manager. The interest defined by the Purchasing Manager is to assign one expert in the Purchasing Division to handle the procurement of each particular commodity or product. This helps to ensure that negotiation in the e-procurement network among the actors involved can take place effectively.

**Association with and enrolment of Engineering Team**

The first part of negotiation at CMC takes place between the Purchasing Manager and the Engineering Team. The Purchasing Manager appoints one expert from his division to deal with the Engineering Team, in order to specify the types of products that will be procured. If a certain problem arises during the negotiation process with the supplier, this hurdle can be quickly resolved because the Purchasing Manager will understand the problem faster through knowing whom to refer to in order to solve the problem at hand. Thus, by having one expert dedicated to handling each specific product to be procured, the subsequent negotiation process between the Purchasing Manager and the supplier can be expedited. The association that the Purchasing Manager builds with the Engineering Team can expedite the whole negotiation process at CMC. This helps to ensure the efficient negotiation with suppliers later on, specifically in regard to the products to be procured.

**Association with and enrolment of Cost Estimation Team**

Another actor that helps accelerate future negotiation between the Purchasing Manager and suppliers is the Cost Estimation Team. The Cost Estimation Team is responsible for preparing the budget for the product to be procured, and making this budget available to be used by the Purchasing Manager. Thus, appointing one expert in the Purchasing Division to handle the budget for the products to be procured will assist the Purchasing Manager in expediting later negotiation processes with the supplier, specifically those
negotiations related to the price of the product. In addition, by having the budget prepared for the Purchasing Manager, the negotiation can be easily done because all the information required is available for him such as the information on the budget prepared by the Cost Estimation Team and the specification of products, as prepared by the Engineering Team. These associations between the Purchasing Manager, the Engineering Team and the Cost Estimation Team help to expedite the negotiation process with the supplier at CMC, specifically in regard to procuring products.

**Association with and enrolment of suppliers**

With assistance from the Engineering Team and the Cost Estimation Team in preparing specifications and budgets for the products being procured, the Purchasing Manager selects a potential supplier to work with. Having one expert to handle one specific product will expedite the negotiation process conducted with suppliers, because all the information in regard to the product being procured can be easily located. In addition, the expert appointed in the Purchasing Division will have a strong understanding of the needs of suppliers. Therefore, he will choose the appropriate supplier needed by CMC to procure products that match the prepared budget plan and specifications.

**Understanding the association with and enrolment of e-procurement tools as procurement devices**

In helping the Purchasing Manager in procurement processes with suppliers, CMC uses e-procurement as a method to procure products. Although face-to-face contact is still a preferable method to negotiate, the e-procurement tools used include the RFQ system and email. These devices help the Purchasing Manager to negotiate with the suppliers. However, the e-procurement system used cannot be fully utilised by the Purchasing Manager in assisting him to procure products, because of numerous social issues influencing negotiation such as relationships with suppliers, trust, culture, and other factors as previously discussed. Although the Purchasing Manager is aware of the potential of using e-procurement in expediting the procurement processes, social issues still influence negotiations between the Purchasing Manager and the suppliers. Thus, by
appointing one expert for each product procured by the Purchasing Division, negotiations conducted with suppliers in the e-procurement environment at CMC can be sped up.

7.4.1.3 Building the Network – Enrolment

The actors involved in negotiation in e-procurement at CMC are enrolled through the Purchasing Manager, as part of the manager’s plan to appoint an expert to handle each specific product to be procured. The success of enrolment at CMC can be seen through the business relationship between CMC and its suppliers. Suppliers can work together in order to more effectively supply products to CMC. Furthermore, the relationship that CMC has built with suppliers can also assist the supplier to arrange business deals with its parent company, thereby effectively providing an inventory for CMC. As stated by the General Manager of Umicore:

_We will deal with our parent company in order to provide inventory for our supplier in Melbourne, and the process can be expedited with help from our customer._

Even though the Purchasing Manager can enrol other actors, particularly the human actors involved in the network, there are other actors involved that influence negotiation in e-procurement at CMC. Social issues are among the factors that influence negotiation in e-procurement (refer to Section 7.5). As well as social issues as influencing factors, there are other factors influencing negotiation in e-procurement including the products to be procured, the organisations involved in negotiations in e-procurement and the policy that CMC and its suppliers need to follow. Figure 7.5 represents the actor-network for negotiation in e-procurement at CMC. The actor-network shows the relationships among the human and non-human actors in negotiation in e-procurement at CMC.
The relationship between human and non-human actors in negotiation in e-procurement at CMC is a complex relationship and involves people, processes, social issues and e-procurement tools. The complexity of negotiation in e-procurement can be seen through the impact of the identified social issues on the e-procurement tools used to procure products. For instance, the RFQ system used by the Purchasing Manager to assist him in
procuring products will have an impact on the way that the Purchasing Manager chooses suppliers. Furthermore, the social issues that influence negotiation between the partners at CMC are in turn also influenced by the non-human actors such as the procurement policy, the organisations involved in the identification of products to be procured, and the procurement process itself. Thus, negotiation in e-procurement represents a complex actor-network among human and non-human actors. The complexity of the actor-network in negotiation in e-procurement is exemplified by the complex relationship among the people involved in negotiations and the negotiation process, the social issues that influence negotiation, the e-procurement tools used, the procurement policies utilised, the organisations involved in procurement and the types of products being procured by CMC.

7.5 Summary

Negotiation in e-procurement at CMC plays an essential role in ensuring that the company’s procurement process can run smoothly and effectively. The Purchasing Manager is the person responsible for ensuring effective negotiation among the people involved in negotiation processes, thereby ensuring that the procurement of all necessary products is achieved. The Purchasing Manager can expedite the procurement process with the use of e-procurement tools such as the RFQ system and email. However, social issues are factors that influence the negotiation process conducted between the parties involved at CMC. Therefore, through understanding the factors that influence negotiation in e-procurement between partners, including the social issues, the value chain created among those involved in negotiation in e-procurement can be improved.

The actors involved in negotiation in e-procurement are diverse at CMC. The human actors involved include the internal actors such as Purchasing Department, Cost Estimation Department and Engineering Department. The suppliers and parent companies are considered as external human actors. Each of these human actors has their own role in the negotiation process in the e-procurement network. Non-human actors such as
social issues are also factors influencing negotiation in e-procurement. CMC should be aware of the importance of understanding each of the actors involved in the negotiation process in e-procurement to ensure the procurement process can be conducted effectively. The following chapter analyses another case study from a private sector organisation involved in negotiation in e-procurement. The purpose of exploring other case studies is to discover further findings from the private sector, thereby adding additional strength to the first case studied within the private sector.
Chapter 8 – The Aviation Company Case Study

8.1 Introduction

This chapter analyses the data collected from the Aviation Company (AVC), as a private sector organisation, and one of its suppliers involved in negotiation as part of the sourcing process in the e-procurement environment. The chapter begins with a background overview of the case study, and then continues with an explanation of the findings from the interviews regarding e-procurement at the organisation, and negotiation in e-procurement at the organisation. Next the social issues influencing negotiation in e-procurement at the organisation, from the perspectives of both the supplier and the procurer, are analysed. Finally, an analysis using the actor-network theory is used to describe negotiations in the sourcing process in this e-procurement environment.

8.2 Case Study Background

AVC is one of Australia’s largest fully independent maintenance, repairs and operations companies. AVC is capable of servicing a wide range of passenger and military aircraft in Melbourne, Australia. The intention of AVC is to deliver fully integrated servicing solutions to meet the individual needs of its customers and to meet their maintenance and servicing requirements.

The suppliers of AVC are based around the globe. A number of the company’s suppliers are based in Hong Kong, Singapore, the United States and throughout Europe, while a number of local companies are also involved. One local company which supplies AVC is ABC Company. ABC Company is a small business with 24 employees, but it operates internationally in countries including Europe, North America and New Zealand. ABC Company has established itself as a supplier intermediary between its own suppliers and
AVC. The company usually works with its customer to identify appropriate suppliers. As stated by the General Manager at ABC Company: “We are not a supplier in our own right, but we act like a wholesaler or distributor. In our circumstance we usually act for our customers, not for our suppliers”. ABC Company sells the equipment and maintenance parts required for aircraft, which are highly specialised products. The company’s objective is to facilitate the aggregation of demand, and to reduce the supplier base for aircraft parts in the Melbourne region. Table 8.1 presents a summary of the roles of the procurer and the supplier at AVC.

Table 8.1: Roles and responsibilities of participants involved in the case study

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Group</th>
<th>Organisation</th>
<th>Job Description</th>
</tr>
</thead>
</table>
| Procurement Manager| Procurer  | AVC          | • Ensure a continuous supply of products to the manufacturing plant, without any disruptions in supply  
|                    |           |              | • Maintain relationships with suppliers, in order to obtain the best possible prices for the products procured |
| Managing Director  | Supplier  | ABC Company  | • Maintain business relations                                                     |

The main roles and responsibilities of procurers in the e-procurement environment are to ensure the continuous supply of products needed to maintain airplanes, without any interruptions to supplies. In addition, the role of the procurer at AVC is to maintain a relationship with the suppliers. As a supplier of AVC, the role is to ensure that the business continues to operate. The following section discusses the use of e-procurement at AVC.
8.2.1 E-Procurement at AVC

The Procurement Division at AVC is responsible for procuring automotive parts, particularly resources and components for aircraft, which include highly-specialised products. Due to the type of products procured, the Procurement Division is notified of all relevant criteria as identified by the aircraft manufacturers. The specification developed by AVC determines the parts needed by the manufacturer of the particular aircraft being serviced. The manufacturers of the aircraft include Boeing Airlines, Airbus Airlines and Embraer Airlines. The Procurement Manager at AVC prepares a vendor list, which contains the products needed for the maintenance of the particular aircraft at hand. The Procurement Manager needs to obtain approval of the vendor list, as given by the Quality Control Division. In this case, the Quality Control Division ensures that the supplier list prepared by the Procurement Manager contains reliable supplier information, after which all the suppliers go through a quality control process in regard to the products they are selling, and the Engineering Division of the aircraft manufacturer will approve the products that the Procurement Manager will procure. Figure 8.2 represents the procurement process undertaken by the Procurement Division at AVC.

Figure 8.2: Procurement process used at AVC
SPEC 2000 is the name of the purchasing tool used for procurement at AVC. The SPEC 2000 software is used by the procurer for standardising the sets of messages that result in the exchange between the procurer and the suppliers in the aviation marketplace. As explained by the Procurement Manager, “SPEC 2000 in an aviation market is absolutely vital, as everybody uses it”. The message format that is exchanged between the procurer and the suppliers is agreed on in accordance with industry standards. The procurer uses the SPEC 2000 software to issue the SPEC 2000-formatted purchase orders to suppliers, and the supplier responds via the SPEC 2000 format in order to acknowledge the procurer’s purchase order. The supplier then follows up with the shipment messages, which contain the shipping information that the procurer shall receive.

The procurement process commences at AVC, where an aircraft needs to be repaired and there is a need to procure required products. The SPEC 2000 software is the purchasing tool used for the procurement. AVC creates a website with a supplier, designed for ease-of-access by both companies, which lists the established criteria price. Almost 99% of the procurement processes undertaken with the supplier are conducted via the Internet. An online ordering system and email are the two systems used in selecting suppliers through a bidding process. The Procurement Manager sends an order via email to the potential suppliers in order to procure products, and negotiation then commences. Email is the main medium used as a negotiation tool. The Procurement Manager would prefer to procure products online because of time constraints, as he explained: “[The way I approach the supplier] will save much time, and time is the one thing that we do not have a lot of once an aircraft is in maintenance”. Occasionally, phone and face-to-face contact are used to approach domestic suppliers. The following section discusses negotiation as part of the sourcing process utilised in e-procurement at AVC.

8.2.2 Negotiation in E-Procurement at AVC

Negotiation in e-procurement is about getting appropriate suppliers online in order to procure products. As stated by the Procurement Manager: “Negotiation is about
searching through websites to determine the numbers of appropriate suppliers online, and to finally make decisions on which is the best supplier to choose based on the needs of the aircrafts, regardless of the price or other issues". The issues faced in negotiating with suppliers at AVC vary based on the situation faced when procuring products. The Procurement Manager needs to make a prudent decision while negotiating with suppliers, in order to ensure that the company achieves its goal of fixing the aircraft on time. As stated by the Procurement Manager:

*I am looking at the availability of products, foremost, when I have a plane in for maintenance. The flight will be delayed and I am on a very tight deadline, so the critical issue is the availability of products. In most cases, price is not really important. However, that changes when I am looking at the inventory of the [Aviation Company], when a whole range of issues come into play including price, the quality of products and relationships maintained with suppliers.*

Negotiation not only occurs with the trading partners, but also with other parties such as the aircraft manufacturers and the Quality Control Department. The Procurement Manager can only change the type of products procured if he gets approval from the aircraft manufacturer. The specifications developed by AVC determine the aircraft parts needed by the manufacturer of the aircraft. The Procurement Manager cannot simply change the products purchased. Thus, skill in negotiation is needed in order to ensure that the aircraft manufacturer properly receives information from the Procurement Manager.

The Procurement Manager also needs to obtain approval from the Quality Control Department if there is a need to change the supplier. The Quality Control Department ensures that the vendor listing contains reliable suppliers and that the Engineering Division of the aircraft manufacturer will approve the products that the Procurement Manager will need to procure. Therefore, the Procurement Manager needs to have soft skills in handling problems. For example, if the Quality Control Department delays in their approval of the supplier list, then this will delay the procuring process undertaken
by the Procurement Manager. Therefore, the skill of negotiation is important in handling the situation where many different parties are involved in the negotiation process. The Procurement Manager needs to be aware that there are many social issues that can influence negotiation in sourcing in e-procurement. The next section discusses the social issues that influence negotiation in e-procurement from the perspectives of the procurer and supplier.

### 8.3 Issues that Influence Negotiation in E-Procurement at the AVC from the procurer perspective

Eleven categories emerged from an analysis of the interviews, and descriptions for each category were gathered from an interview with the AVC Procurement Manager. A summary of the categories is provided in Tables 8.2 and 8.3.
Table 8.2: Summary of categories that influence negotiation in e-procurement from the procurer perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lead time/delivery time</td>
<td>The need for the products procured by AVC to arrive in a timely fashion is an issue that the Procurement Manager has to deal with, particularly in the case that the products are being shipped from overseas suppliers. Time is a major constraint for AVC once an aircraft is in for maintenance. As stated by the Procurement Manager, “Sometimes getting certain parts for aircraft maintenance from a supplier on a quick basis is difficult, and in order to get the parts procured on time we have to incur extra delivery costs”.</td>
</tr>
<tr>
<td>2</td>
<td>Rules and regulations</td>
<td>In procuring products for aircraft, AVC is bound by strong restrictions. This is due to the job specification for AVC, in that the highest priority is given to the safety of airplane passengers. The Procurement Manager has to follow rules and regulations established by the aircraft manufacturers and companies in selecting suppliers, before products can be procured for the aircraft. Therefore, with the strict rules and regulations associated with procuring products, the Procurement Manager’s tasks can be delayed if the department involved does not perform its duties effectively. As stated by the Procurement Manager, “The Procurement Department group may delay procuring products, because the Procurement Manager needs to get approval from the Quality Department in regards to the lists of potential suppliers, before the Procurement Department can procure products”.</td>
</tr>
<tr>
<td>3</td>
<td>Trust</td>
<td>Trust is an issue involved in negotiation in e-procurement at AVC. The Procurement Manager can get the information on the products that he needs to procure with a short timeframe and the supplier can deliver easily because the Procurement Manager has a good relationship with suppliers. Due to a good relationship with suppliers, trust is a main focus in this specific industry. Since AVC is considered to be a very specific industry, then the numbers of potential suppliers are limited. Therefore, trust is an issue that needs to be focused on by the Procurement Manager at AVC.</td>
</tr>
</tbody>
</table>
Table 8.2: Summary of categories that influence negotiation in e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Culture</td>
<td>The cultural differences in regard to the different language and accents used by different suppliers during verbal or written communication are an issue during negotiations in e-procurement. When communication occurs with suppliers from the US or the UK, the procurer typically will not have any problems because they will be using the same language. However, if communication happens with suppliers from Asia, the procurer may have language problems. As stated by the Procurement Manager: “We have a challenge when communicating with suppliers from Asian countries because of the different languages faced, and the different cultures.”</td>
</tr>
<tr>
<td>5</td>
<td>Relationship with suppliers</td>
<td>Relationship with suppliers is one of the social issues that influence negotiation in e-procurement. The Procurement Manager needs to maintain a good relationship with their supplier. When the Procurement Manager has a problem in procuring the products needed, there will always a long-term supplier available to provide information regarding the products to be procured. As stated by the Procurement Manager: “I will maintain a relationship with a certain supplier because I know that when I am having a problem in dealing with a present supplier, I can always rely on a long-term supplier for help”.</td>
</tr>
<tr>
<td>6</td>
<td>Corporate social responsibility</td>
<td>Since the company needs to follow a number of strict rules and regulations while procuring products for aircraft, the Procurement Manager has to ensure that the products procured follow the standard set-up as established by the aircraft manufacturer company. The Procurement Manager needs to follow the standard, because the passenger’s safety is the main priority. Therefore, CSR is an important concept that the Procurement Manager needs to understand when entering a negotiation process.</td>
</tr>
</tbody>
</table>
Table 8.2: Summary of categories that influence negotiation in e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Quality and availability of products</td>
<td>The quality and availability of products is an issue for AVC. This is because, once a plane is in for maintenance, the Procurement Manager needs to ensure that he obtains the products needed for the plane’s maintenance within a short timeframe. As stated by the Procurement Manager: “<em>The foremost issue that I am facing is that when I have a plane in maintenance, I need to procure products within a short timeframe so that I can make sure that the plane can operate on schedule</em>”.</td>
</tr>
<tr>
<td>8</td>
<td>Communication issues</td>
<td>Communication is important to AVC because there are many parties involved in the procurement process. These parties include the Procurement Manager, suppliers, the aircraft manufacturers, the Quality Control Division, and the Engineering Team of the aircraft manufacturers. Therefore, communication among these groups is essential in ensuring that negotiation for the procurement of products runs smoothly. Each of the parties involved should have good communication skills, in order to ensure that the associated process is effectively conducted.</td>
</tr>
<tr>
<td>9</td>
<td>Skills of negotiators</td>
<td>Negotiation skills are important in ensuring that negotiation between trading partners can run smoothly. Having good negotiation skills help to ensure that problems faced when procuring goods can be easily resolved. For instance, if the Procurement Manager has a supplier from China, an individual with a different culture and language, then the manager’s strong negotiation skills will help to solve any related problems. As stated by the Procurement Manager: “<em>When we get suppliers from Asian countries, obviously there are different languages and cultures involved. However, if the negotiator has good communication skills, problems can be solved</em>”.</td>
</tr>
</tbody>
</table>
All nine social issues influence negotiation in e-procurement at AVC, and all are related to each other. For negotiation in e-procurement to succeed, the supplier needs to ensure that products can be made available and delivered on time. Otherwise, this will jeopardise the relationship between AVC and its supplier. This is due to the fact that the main concern of AVC is to ensure that a plane is ready to return to operation on a tight schedule after its maintenance has been completed. Since there are many parties involved in the negotiation process undertaken by AVC, then negotiation skills become essential. This helps to ensure that cultural and communication issues can be overcome. The following section discusses the social issues that influence negotiation in e-procurement from the perspective of ABC Company, as a supplier to AVC.

Besides social issues as influencing factors in negotiation in e-procurement, there are other issues that also influence negotiation at AVC, namely, currency exchange and price. Table 8.3 summarises these issues influencing negotiation in e-procurement at AVC.

Table 8.3: Summary of other social issues (by category) that influence negotiation in e-procurement from the procurer perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Currency exchange</td>
<td>The transaction currency utilised by AVC in procuring goods from suppliers is commonly in American dollars. Therefore, variations in the value of the American dollar will impact on the transaction, since there is a difference in value between the Australian dollar and the American dollar. As stated by the Procurement Manager: “If the Australian dollar is valued at 80 cents or 60 cents, therefore, we have to procure products by adding on another 30 cents. This shows that our purchasing power is low, and it will impact the Procurement Department’s ability to procure goods”. Therefore, the Procurement Manager who deals with suppliers from overseas needs to be constantly aware of currency exchange rates, in order to ensure that negotiation runs smoothly. Although the Procurement Manager cannot control the exchange rate, he will prepare his procurement schedule to ensure he will get a lower price.</td>
</tr>
</tbody>
</table>
Table 8.3: Summary of other social issues (by category) that influence negotiation in e-procurement from the procurer perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| 2   | Price    | The price of products procured is one of the issues that influence negotiation in e-procurement. The Procurement Manager will negotiate with suppliers in order to get the better offer (price) for the company’s inventory. However, due to certain conditions as previously discussed, price is not always a major issue.  
As stated by the Procurement Manager: “Negotiation with the supplier will have an emphasis on the price of the product being procured, if the deal is to procure the product for inventory. However, if the negotiation relates to procuring products for a plane in maintenance, then price is no longer the issue. The main issue here is the availability of the products to be procured”.

There are two issues other than social issues influencing negotiation in e-procurement at AVC from the procurer perspective. One of the issues is the currency exchange. Due to the unique business that involves only a limited number of suppliers, most of the suppliers for AVC are based overseas. Therefore, the currency exchange is one of the issues in negotiation in e-procurement between companies doing business from two different countries. The currency exchange plays a significant role in negotiation in e-procurement because the value of the money being traded is based on the present currency rate. The currency rate becomes negotiable. In addition, the purchasing power often lies with the country that the Procurement Manager is dealing with. For instance, if Procurement Manager in Australia deals with a company with China, Australia will have more purchasing power because the value of money is higher in Australia as compared to China. Therefore, the Procurement Manager in Australia can procure more products.

Another issue that influences negotiation in e-procurement at AVC is price. In the negotiation process at AVC, price can be one of the major influencing factors in procuring products. Price is not a problem for AVC if the Procurement Manager has plenty of time to select an appropriate supplier that can offer a good price. However, if
the Procurement Manager needs to procure product for the purpose of maintaining and fixing the aircraft quickly, the price becomes an issue. In such a case, the Procurement Manager may need to procure product even though the price is expensive because delaying fixing aircraft means the airline will incur more cost.

8.3.1 Issues that Influence Negotiation in E-Procurement at AVC from the Supplier Perspective

Based on the interview with ABC Company, as a supplier for AVC, seven categories emerged from the associated analysis. Each category is explained in detail with a summary of the categories presented in Tables 8.4 and 8.5.

Table 8.4: Summary of categories that influence negotiation in e-procurement from the supplier perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IT security</td>
<td>IT security is one issue that influences negotiation with customers or suppliers. There is a need for the trading partners to ensure that they have proper security in order to ensure that transactions work properly. As stated by the General Manager: “IT security is one of the factors that influence negotiation in e-procurement. For instance, the use of TRACKS (IT system to trace the error in transactions) assists on focusing on the business process design, testing and validation, in order to ensure the transaction works properly once the system is being used”.</td>
</tr>
<tr>
<td>2</td>
<td>Culture</td>
<td>ABC Company deals with many overseas vendors, which requires the company to understand other people’s culture. As stated by the General Manager: “America is one country that shares a similar a business culture in regard to negotiation processes, with a common understanding of expectations regarding the procuring of goods and services. However, European countries may be different, as they tend to be more bureaucratic when dealing with businesses”</td>
</tr>
</tbody>
</table>
Table 8.4: Summary of categories that influence negotiation in e-procurement from the supplier perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| 3   | Trust                             | Trust is a major issue influencing negotiation in e-procurement. This is because the aviation industry is a specific industry, in which a long-term relationship is normally maintained with suppliers. By maintaining such a long-term relationship with suppliers, risks can be reduced and trust can be easily built.  

As stated by the General Manager: “Trust is really essential when transactions occur across borders and via electronic transactions, because you are relying on your confidence of the business that you are dealing with. Therefore, we normally maintain relationships with our trading partners, both customers and suppliers”.

| 4   | Relationships with customers      | Relationship with customers is an important issue that influences negotiation within e-procurement. Understanding a trading partner’s weaknesses and strengths is an important technique to maintaining relationships with companies such as AVC. Such relationships require sincere efforts to remediate problems, while communicating honestly and clearly about both successes and failures.  

As stated by the General Manager: “We value the relationships that we have had with our customers, and over time we will talk with the people that we have been in business with for many years”.

| 5   | Corporate social responsibility  | Conducting business with AVC means that all products sold to the company must follow a fixed standard, because the products sold are used to maintain aircraft. Therefore ABC Company needs to understand the inherent responsibility to AVC when selling aircraft parts and products because of the overarching priority of passenger safety. Therefore, CSR is an essential issue related to negotiation in e-procurement. |
Table 8.4: Summary of categories that influence negotiation in e-procurement from the supplier perspective (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Expectation management</td>
<td>Expectation management is another issue that influences negotiation as associated with AVC. ABC Company needs to understand the high expectations that are involved in working with AVC particularly in regard to the procurement of products, because of the nature of the company. Therefore, ABC Company needs to meet the associated expectations, trying to be responsive to requests made by AVC, and to support the company. Thus, for negotiation to succeed, ABC Company needs to understand the nature of AVC. Doing so will ensure that the businesses of both parties will continue to be profitable.</td>
</tr>
</tbody>
</table>

Six categories of social issues emerged from the analysis conducted in this part of the study, all of which are related to each other. Since both companies use electronic systems in procuring and selling products, then IT security is essential issue that enhances the negotiation process. Each company needs to ensure that they utilise the proper security required for safe transactions. In addition to IT security, business culture plays an important role in negotiation in e-procurement, as related to AVC, because most of the company’s trading partners are international. Therefore, there is a need to understand other people’s cultures, in order to ensure that negotiation runs smoothly. The maintenance of a good relationship with suppliers will allow trust to be easily established. Therefore, each side of this particular business relationship should have high expectations related to maintaining their business, by trying to be as responsive as possible to the requests of the other party, and by supporting them as needed.

Besides the social issues as influencing factors in negotiation in e-procurement, another issue that influences negotiation at AVC from the supplier perspective is the niche market. Table 8.5 summarises the niche market as the other issue influencing negotiation in e-procurement at AVC from the supplier perspective.
Table 8.5: Summary of ‘niche market’ as an issue that influences negotiation in e-procurement from the supplier perspective

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1   | Niche market | The company needs to identify and pre-qualify vendors, based on previous experiences related to who is worthy to become a vendor. This is due to the fact that the market they are dealing with focuses on a specific group of products.  

As stated by the General Manager: “This industry is quite different, because what you are buying is selected for quality purposes, and normally involves identifying part numbers”. Thus, a niche market is one of the issues that influence negotiation in e-procurement, because of the limited number of businesses involved. Due to the limited number of businesses involved, the selection of suppliers will also be limited. Hence, AVC faces a limitation in negotiating prices because of the fewer available suppliers. |

The niche market is an influencing factor in negotiation in e-procurement at AVC due to the limited number of suppliers available in the market; yet, suppliers need to provide good service and offer good prices in order to do business with AVC. Since the aircraft business is a specific business that involves a niche market, suppliers need to have good negotiation skills to have a business with AVC. Through the good negotiation skills provided by the supplier, a good reputation between the trading partners can be built. Therefore, consideration of the social issues and other issues involved in negotiation will assist the Procurement Manager and suppliers to expedite the negotiation process. The following section discusses negotiation in e-procurement at AVC, from the actor-network theory perspective.

8.4 Analysis using Actor-network Theory

This section explains the case study of negotiation in e-procurement at AVC through the use of actor-network theory. The ANT concepts, as outlined in Chapter 3, are applied in
the following section in order to show the process involved in building a network in negotiation in e-procurement at AVC.

8.4.1 Translation Process in Negotiation in E-Procurement at AVC

This chapter’s case study is synthesised using the ANT concept of translation in order to show the processes involved in building a network for negotiation in e-procurement at AVC. A brief description of negotiation in e-procurement at AVC is discussed. The systems that are used at AVC include SPEC 2000 as an ordering system, and MYOB as an accounting system. These systems are used by AVC to procure products needed for the maintenance of aircraft, from suppliers such as ABC Company. However, AVC still uses the face-to-face contact method when negotiating with trading partners. The Procurement Manager is the person involved in the negotiation process undertaken with trading partners. The process of negotiation between trading partners can be effectively carried out with help from other groups. Suppliers typically serve as the main trading partners in business negotiations, but other actors also influence the Procurement Manager in the negotiation process through indirect means. These actors include the aircraft manufacturers, the AVC Quality Control Department, and the system used in procuring products. The social issues and other issues that influence negotiation in e-procurement at AVC also play a role in ensuring that the negotiation with the trading partners can be successful. The involvement of the actors in negotiation in sourcing in the e-procurement network at AVC can be understood by reference to the translation process, and in particular, the three stages of problematisation, interressement and enrolment.

8.4.1.1 Building the Network – Problematisation

Negotiation at AVC can be treated as the process of the enrolment of various actors within the organisation into a network of suppliers. To ensure the success of negotiation, the relevant actors have to be enrolled in the network to represent the new tactics of negotiation in the e-procurement environment. If the new tactics of negotiation in
procuring goods and services through e-procurement are able to be assembled into an actor network, wherein each important actor has passed through the obligatory passage point and had been successfully enrolled, then negotiation in e-procurement would be successful. Otherwise, it implies failure in the e-procurement negotiation.

The actors involved in negotiation in e-procurement at AVC include the Procurement Manager who plays the main role by carrying out negotiation and representing the emerging network. The Procurement Manager is identified as a focal actor in this study, as the person responsible for identifying and enrolling other actors involved in the negotiation in e-procurement. The Procurement Manager is responsible for procuring products for AVC and for handling negotiations with the suppliers. The process of procuring products from suppliers requires the Procurement Manager to collaborate and negotiate with other departments at AVC. The Procurement Manager also helps to ensure that the quality of the products procured is sustainable.

One of the departments involved in the negotiation process, specifically responsible for assisting the Procurement Manager, is the Quality Control Department. The Quality Control Department is responsible for approving the list of preferred suppliers as prepared by the Procurement Manager. The purpose of this process is to ensure that AVC obtains a reliable supplier, so that the subsequent negotiation processes with the supplier can be conducted efficiently. In addition to the Quality Control Department involved in the negotiation process, there are other parties who are likewise involved. The aircraft manufacturer, for instance, is responsible for approving the products procured by the Procurement Manager. As stated by the Procurement Manager:

*The specification in determining the parts needed is done by the manufacturer of the aircraft, or by the components of the manufacturer of the aircraft.*

The e-procurement systems used at AVC to procure products include SPEC 2000, email, video conferencing and MYOB. These systems are used as negotiation tools by AVC. However, if problems arise in the negotiation process such as those related to price,
delivery time, IT security and other factors, additional approaches will be used such as face-to-face contact or phone conversations. Therefore, AVC needs to be aware of the social issues that influence negotiation in e-procurement. Based on the description of the identified actors involved in negotiation in e-procurement, Table 8.6 presents a summary of the human and non-human actors involved in the network at AVC.
Table 8.6: Human and non-human actors involved in negotiation processes regarding e-procurement at AVC

<table>
<thead>
<tr>
<th>Human Actor</th>
<th>Non-Human Actor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Human Actor – Procurer</td>
<td>Systems Operated</td>
</tr>
<tr>
<td>• Procurement Manager</td>
<td>• SPEC 2000</td>
</tr>
<tr>
<td>• Quality Control Department</td>
<td>• Email</td>
</tr>
<tr>
<td></td>
<td>• MYOB (accounting software)</td>
</tr>
<tr>
<td></td>
<td>• Audio conferencing</td>
</tr>
<tr>
<td></td>
<td>• Phone conversations</td>
</tr>
<tr>
<td></td>
<td>• Face-to-face contact</td>
</tr>
<tr>
<td></td>
<td>Products procured</td>
</tr>
<tr>
<td>• Aircraft manufacturer</td>
<td>• Aircraft components</td>
</tr>
<tr>
<td>• Engineering Team, aircraft manufacturer</td>
<td>Organisations</td>
</tr>
<tr>
<td></td>
<td>• AVC</td>
</tr>
<tr>
<td></td>
<td>• Aircraft manufacturer company</td>
</tr>
<tr>
<td></td>
<td>• ABC Company</td>
</tr>
<tr>
<td></td>
<td>• Supplier</td>
</tr>
<tr>
<td>External Human Actor – Supplier (ABC Company)</td>
<td>Social issues influencing negotiation</td>
</tr>
<tr>
<td>• Supplier (Distributor)</td>
<td>• IT security</td>
</tr>
<tr>
<td></td>
<td>• Relationship with supplier/customer</td>
</tr>
<tr>
<td></td>
<td>• Trust</td>
</tr>
<tr>
<td></td>
<td>• Culture</td>
</tr>
<tr>
<td></td>
<td>• Communication issues</td>
</tr>
<tr>
<td></td>
<td>• Rules and regulations</td>
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<tr>
<td></td>
<td>• Niche market</td>
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<td></td>
<td>• Expectation management</td>
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<tr>
<td></td>
<td>• Corporate social responsibility</td>
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<tr>
<td></td>
<td>• Availability and quality of products</td>
</tr>
<tr>
<td></td>
<td>• Price</td>
</tr>
<tr>
<td></td>
<td>• Delivery time</td>
</tr>
<tr>
<td></td>
<td>• Skills of negotiators</td>
</tr>
<tr>
<td>External Human Actor – Supplier (ABC Company)</td>
<td></td>
</tr>
<tr>
<td>• Supplier</td>
<td></td>
</tr>
</tbody>
</table>

When asked about building the actor-network involved in negotiation in e-procurement at AVC, the Procurement Manager agreed that the human actors involved in the negotiation process need to understand the social issues that influence negotiation in e-procurement.
This consideration assists all the actors involved in negotiation to easily achieve their goals. For instance, a supplier’s goal is to maintain business with AVC for profit purposes, and consequently his goal would be easier to obtain if the supplier understands the social issues that influence negotiation. If this is done, then the problems associated with negotiation (refer to Section 8.5) could be more easily resolved.

Figure 8.4 represents how the Procurement Manager, as the focal actor, frames the problems that occur in negotiation in e-procurement, while identifying other relevant actors that affect the actor-network involved in negotiation in e-procurement at AVC.

![Diagram showing the Procurement Manager's role and the network of actors involved in negotiation.](image)

Figure 8.4: Problematisation of negotiation within the sourcing process in the e-procurement network at AVC

**8.4.1.2 Building the Network – Interessement**

The second step in translation is interessement, which involves convincing other actors to agree on the interest defined by the Procurement Manager. In the case of AVC, the
interest defined by the Procurement Manager is to ensure that the actors involved in negotiation understand the importance of the social issues that influence negotiation in e-procurement. This ensures that negotiation in the e-procurement network among the actors involved can take place effectively.

**Association with and enrolment of Quality Control Department**
The first part of negotiation at AVC occurs between the Procurement Manager and the Quality Control Department. In identifying an appropriate supplier to deal with, the Procurement Manager will first select a number of potential suppliers, and will send the list to the Quality Control Department for approval. The Quality Control Department is responsible for ensuring that the list contains the appropriate suppliers who fulfil the requirements and standards as suppliers for AVC. Thus, in order for the Procurement Manager to collaborate and negotiate effectively with the Quality Control Department regarding the selection of suppliers, the Quality Control Department needs to understand the social issues that influence the negotiation process and it also needs to understand the working culture of the Procurement Manager. Thus, by having both parties collaborate, the negotiation in e-procurement can be done efficiently.

**Association with and enrolment of aircraft manufacturers**
Another actor that helps accelerate negotiations between the Procurement Manager and the supplier is the aircraft manufacturer who is responsible for approving the products procured by the Procurement Manager. A delay in approval from the aircraft manufacturer means a delay in the procurement process conducted with the suppliers. Thus, the whole process of aircraft maintenance will be delayed. Therefore, the Procurement Manager is responsible for ensuring the approval of the products to be procured, within the approved timeframe. To ensure that the procurement and negotiation processes run smoothly, the AVC Procurement Manager needs to ensure that the parties involved understand the social issues that influence the process. Both parties need to understand their responsibility in fulfil their tasks. If hurdles arise during the
negotiation process due to a delay caused by the aircraft manufacturer, then the Procurement Manager can follow-up to expedite the process.

**Association with and enrolment of suppliers**

Once the Procurement Manager obtains the approval needed for the list of potential suppliers from the Quality Control Department, and gains the approval from the aircraft manufacturer regarding the products to be procured, the manager will begin negotiations with suppliers. The negotiation with suppliers takes place through electronic means. The purchase order and the invoice from the supplier are sent via SPEC 2000. However, if the negotiation cannot be resolved online, then face-to-face contact is used. Therefore, understanding the social issues that influence negotiation will assist the Procurement Manager and suppliers to negotiate effectively. In this case, each party will have a better understanding of the shortcomings involved with using electronic tools as the sole means of negotiation.

**Understanding the association with and enrolment of e-procurement tools as procurement devices**

In helping the Procurement Manager to expedite the procurement processes with suppliers, AVC uses e-procurement as the method to procure products. The e-procurement tools used by AVC include SPEC 2000, MYOB, email and audio conferencing. These devices help the Procurement Manager to easily negotiate with suppliers. However, the e-procurement system cannot be fully utilised by the Procurement Manager to procure products, because it is evident that a number of social issues still impact on the negotiations. Although the Procurement Manager is aware of the potential benefit of using e-procurement in expediting the procurement processes, social issues still influence negotiation between the Procurement Manager and suppliers. Thus, by understanding the social issues that influence negotiation in e-procurement, the negotiation process can be expedited.
8.4.1.3 Building the Network – Enrolment

The enrolment of the actors in the network at AVC can be understood by reference to the social issues that influence the negotiation process related to e-procurement. The Procurement Manager is the person responsible for notifying the actors involved in the negotiation process that, for the negotiation to succeed, they need to understand the social issues as influencing factors in the process. As stated by the General Manager at ABC Company:

*If the supplier came to me and said I have a better price to offer and change the relationship with the old customer that I had, I will not do it because I have a good relationship with [AVC] and they are easy to negotiate with since I know the business culture of the company.*

Even though the Procurement Manager can enrol other actors, in particular the human actors involved in the network, there are other actors involved that may influence the negotiation in e-procurement at AVC. In particular, social issues are non-human factors that may influence negotiation in e-procurement (refer to Section 8.5). These issues include the products procured, the organisations involved in the negotiation, and the e-procurement tools such as the negotiation devices used in procuring products.

Figure 8.3 represents the actor-network for negotiation in e-procurement at AVC. The actor-network shows the relationships between the human and non-human actors in negotiation in e-procurement at AVC.
The interaction among the human and non-human actors in the negotiation processes in e-procurement at AVC is a complex network of relationships which involves people, processes, social issues and e-procurement tools. The complexity of negotiation in e-procurement can be seen through the impact of e-procurement tools used to procure products, with due consideration of the identified social issues. For instance, the SPEC
2000 system is used by the Procurement Manager to assist him in procuring products from suppliers. The SPEC 2000 is the electronic tool used by the aviation industry to send orders, and the message sent via SPEC 2000 will be received and understood by the supplier in order to produce the invoice for the Procurement Manager. Thus, the relationship among the actors involved in negotiation at AVC will be successful and mutually beneficial, because the actors involved understand their responsibilities and functions within the network.

8.5 Summary

Negotiation in e-procurement at AVC plays an important role in ensuring that the procurement process runs effectively. The Procurement Manager is the person responsible for ensuring that constructive negotiation takes place among the actors involved, so that the necessary products can be procured. The Procurement Manager can expedite the procurement process with the use of e-procurement tools. However, social issues can influence the negotiation process which takes place between the partners involved with AVC. Therefore, through an understanding of the factors that influence negotiation in e-procurement between partners, particularly in regard to certain social issues, the value chain created among the actors involved in negotiation in e-procurement can be improved.

AVC is a service company that maintain aircrafts. Many actors are involved in this industry due to the major responsibilities of the actors involved in ensuring the safety of aircraft passengers. Each of the actors involved – either human or non-human – plays a role in ensuring the aircraft are maintained properly. An effective network should exist among the actors involved in procuring products for aircraft. In addition, AVC should be aware of the non-human actors that can influence negotiation in the e-procurement network (in this case, the social issues). Thus, actor-network theory has been used in this case study to describe the relationship among the actors involved in AVC in the negotiation process in the e-procurement network.
The following chapter describes the cross-case analysis of negotiations in e-procurement between the public and private sectors. The analysis focuses on the social issues influencing negotiation in e-procurement, the e-procurement tools used in negotiation and the impact of social issues in negotiation in e-procurement from the ANT perspective.
Chapter 9 – Cross-Case Analysis and Discussion

9.1 Introduction

This chapter analyses negotiation in the sourcing process between partners in e-procurement in the Australian public and private sectors. A cross-case analysis of the studies conducted in the public sector (Chapter 5 and Chapter 6) and private sector (Chapter 7 and Chapter 8) is discussed in the following sections.

There are three main sections in this chapter. The first section contains the analysis and discussion on the similarities and differences between the social issues that influence negotiation in e-procurement in both the public and private sectors. The second section discusses the e-procurement tools used in negotiation in the sourcing process in e-procurement in both the public and private sectors. The third section considers the impact of the social issues on negotiation in the sourcing process in e-procurement from the ANT perspective.

9.2 Similarities and Differences between the Social Issues and other Issues that Influence Negotiation in E-Procurement in the Private Sector

This section provides a cross-case analysis and discussion of the social issues and other issues that influence negotiation from both the procurer and supplier perspectives in the private sector. The cross-case analysis was conducted in view of the cases discussed in the private sector, namely, CMC in Chapter 7 (Section 7.5), and AVC in Chapter 8 (Section 8.5). By comparing the social issues and other issues identified from each case, the similarities and differences between the social issues and other issues that influence negotiation in e-procurement are discovered.
9.2.1 Analysis and Discussion from the Procurer Perspectives in the Private Sector

The cross-case analysis in this section is used to identify the similarities and differences of the social issues that influence negotiation in e-procurement in the private sector. The social issues identified by CMC and AVC from the procurer perspective are reported in Figure 9.1.

<table>
<thead>
<tr>
<th>AVC</th>
<th>CMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality and availability of products</td>
<td>Relationships with trading partner</td>
</tr>
<tr>
<td>Lead time or delivery time</td>
<td>Culture</td>
</tr>
<tr>
<td>Rules and regulations</td>
<td>Trust</td>
</tr>
<tr>
<td>Currency exchange</td>
<td>Corporate social responsibility</td>
</tr>
<tr>
<td>Skills of negotiators</td>
<td>Price</td>
</tr>
<tr>
<td></td>
<td>Communication issues</td>
</tr>
<tr>
<td></td>
<td>Performance of suppliers</td>
</tr>
<tr>
<td></td>
<td>Suppliers’ offer</td>
</tr>
<tr>
<td></td>
<td>Coordination between divisions</td>
</tr>
<tr>
<td></td>
<td>Awareness in choosing suppliers</td>
</tr>
</tbody>
</table>

The shaded area in the figure represents similar opinions regarding the social issues and other issues that influence negotiation in e-procurement, and the non-shaded areas represent the different opinions on social issues and other issues influencing negotiation in e-procurement unique to the respective company. There were five social issues identified by both AVC and CMC, namely, corporate social responsibility, maintaining
relationships with trading partners, trust, culture and communication issues. Price was another issue that both companies identified as an influencing factor in negotiation in e-procurement. There were five social issues at AVC and four at CMC that differed from each other. The social issues mentioned only by the procurer at AVC were the quality and availability of the products procured, rules and regulations, currency exchange, lead time on delivery, and the skills of suppliers as negotiators. The different social issues at CMC were the suppliers’ offers, the performance of the suppliers, the coordination between divisions, and awareness in choosing suppliers. The similarities and relationships between the issues are now discussed in further detail.

Relationship with trading partners is one of the social issues identified in both case studies in the private sector. The procurer needs to maintain a relationship with the trading partners in order to ensure that the negotiation process can run smoothly. The relationship can be maintained through the mutual understanding that both parties will work towards a win-win outcome in the negotiation process. For example, an aircraft needs to be fixed in a short time period, and the products ordered need to arrive within the set time period. By maintaining the relationship with trading partners, negotiation on the delivery can be done effectively. Through the mutual understanding of both parties, trust will be earned. However, trust becomes an issue that needs to be overcome in the private sector in order to ensure that negotiation runs smoothly between the trading partners. Trust can only be earned if the trading partners attempt to fulfil the procurer’s requirements as requested. Through the trust that is developed between the trading partners, and the relationship that has to be maintained, cultural issues can be resolved. Culture is a social issue in negotiation between trading partners, because the suppliers involved in the private sector are both local and international. Therefore, the procurer needs to understand the different cultures of the trading partners that they are dealing with. Through the understanding of the way people work in different environments, and through trying to cooperate despite the differences in approaching business, then the negotiation process can run smoothly.
Another similar issue found in both case studies relates to the price of the products being procured. CMC and AVC agreed that price was one of the non-social issues influencing negotiation in e-procurement. Price is an issue for both companies, because the products being procured from the supplier are highly specialised. Both private companies procure specific types of products. CMC needs to procure products with cutting edge technology in order to ensure that the vehicles it produces matches the quality required by the company; AVC needs to procure products specialised for a particular type of aircraft, in order to ensure the safety of passengers (Section 7.2 and Section 8.2, respectively).

Price is an issue for private companies in negotiation in e-procurement because the aim of private companies in business is to maximise the profit earned. Therefore, companies will try to seek the best solution to earn more profit. One method is via the procurement process. For instance, the Procurement Manager at CMC knows the target price before negotiating with suppliers. The target price is prepared by the CMC Cost Estimation Team which has expertise in preparing budgets. Thus, in nominating suppliers to do business with CMC, the Procurement Manager only chooses suppliers that provide prices that are similar or lower than the target price.

Communication is an issue when prices are negotiated with trading partners. Procurers use different approaches to communicate with trading partners, in order to negotiate a product price. The communication approaches used by the procurer vary, and they include e-procurement devices, email, face-to-face conferences, audio and video conferences and phones calls. The communication approaches change depending on the location of the trading partners. Typically, if it is a local trading partner, communication via email, phone and face-to-face contact are considered to be more appropriate. However, if the trading partner is overseas, email, video and audio conferencing are used. The communication approach used can impact on the price procured, because there is a potential for increasing the expenses incurred via the communication overhead costs.
Corporate social responsibility is another social issue identified in both case studies in the private sector. Negotiation with trading partners can be done effectively if trading partners are aware of the importance of corporate social responsibility when selling products to the procurer. The procurer needs to ensure that the trading partners understand the responsibility of selling products that match the rules and regulations set by either the government or the companies themselves. The following section discusses the similarities and differences regarding the social issues influencing negotiation in e-procurement in the private sector from the supplier perspective.

### 9.2.2 Analysis and Discussion from Supplier Perspective in the Private Sector

Figure 9.2 represents the similarities and differences between the social issues that influence negotiation in e-procurement in the private sector, from the perspective of suppliers. The shaded area lists the similar opinions related to the social issues that influence negotiation in e-procurement at CMC and AVC, while the non-shaded areas list the different opinions.

<table>
<thead>
<tr>
<th>AVC</th>
<th>CMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niche market</td>
<td>Communication</td>
</tr>
<tr>
<td>Security delivery</td>
<td>Rules and regulations</td>
</tr>
<tr>
<td>Expectation management</td>
<td>Demand forecast</td>
</tr>
<tr>
<td>Relationship with trading partners</td>
<td>Corporate social responsibility</td>
</tr>
<tr>
<td>Trust</td>
<td></td>
</tr>
<tr>
<td>Culture</td>
<td></td>
</tr>
</tbody>
</table>

Figure 9.2: Similarities and differences between the social issues that influence negotiation in e-procurement in the private sector from the supplier perspective
There were four similar social issues identified in the case studies in the private sector. The similar categories represented in the shaded area consist of corporate social responsibility, trust, culture, and relationships with trading partners. Three categories of social issues in the AVC case study, and three categories of social issues in the CMC case study differed from the procurer’s perspective. The different social issues listed by the AVC supplier include niche markets, secure delivery and expectation management, while those listed by the CMC supplier include communication issues, rules and regulations, and demand forecast. The similarities and differences related to these social issues are the result of the different types of companies that the suppliers are dealing with.

The relationship that CMC and AVC maintain with their suppliers is an important issue the influences negotiation in the e-procurement procedures undertaken by both organisations. This issue is important to the suppliers of CMC and AVC because both need to maintain business with their trading partners in order to ensure that they continue to earn profits. This is due to the fact that the supplier’s major concern when selling goods and services to trading partners is to earn more profit. Therefore, in order to maintain relationships with trading partners, trust is an important issue that influences negotiation. This is due to the fact that it is through earning trust from their trading partners that CMC and AVC can provide high-quality products and services to their customers.

The procurers can conduct negotiation processes easily, providing they earn the trust of the customers. In order to earn the trust of trading partners, both companies need to understand their business partner’s workplace cultures. This helps to ensure that the companies can meet the needs of their customer. Corporate social responsibility is another issue that both the CMC and AVC suppliers believe has a significant influence on negotiation in e-procurement. This is because in order to earn more profit, the companies need to earn the trust of trading partners by following the sets of rules and regulations that are often directly related to social responsibility. For instance, CMC needs to sell products to customers that are designed to keep environmental safe, and AVC needs to
sell products that meet requirements for passenger safety. The following section discusses the similarities and differences in the social issues influencing negotiations in e-procurement in the public sector from the procurer and supplier perspectives.

9.3 Similarities and Differences between the Social Issues that Influence Negotiation in E-Procurement in the Public Sector

This section presents a cross-case analysis and discussion of the social issues that influence negotiation from both the procurer and supplier perspective in the public sector. The cross-case analysis is applied to the case studies described in Chapter 5 and Chapter 6 relating to two Australian universities. By comparing the social issues identified from each case, the similarities and differences in the social issues that influence negotiation in e-procurement are identified. The next section details the cross-case analysis of negotiation in e-procurement in the public sector, from the perspectives of both procurers and suppliers.
9.3.1 Analysis and Discussion of Procurer Perspectives in the Public Sector

This section contains a cross-case analysis of the social issues that influence negotiation in e-procurement in the public sector, from the procurer’s perspective. Figure 9.3 presents a cross-case analysis of the social issues that influence negotiation in the public sector, from the procurer’s perspective.

![Diagram](image)

Figure 9.3: Similarities and differences in regards to the social issues that influence negotiation in e-procurement in the public sector from the procurer perspective

The shaded area represents the similar opinions regarding the social issues that influence negotiation in e-procurement, and the non-shaded area represents the different opinions regarding the social issues that influence negotiation in e-procurement. Four similar categories of social issues were identified, namely, corporate social responsibility, relationships with trading partners, trust, and culture. Six categories of social issues that influence negotiation were identified in the Multimedia University case study and one category of social issues that influence negotiation was identified in the Technology University case study. In the Multimedia University case study, the social issues that
influence negotiation were the skills of negotiators, sustainability issues, collaboration, the need for a win-win outcome, and value for money. The one influential social issue identified in the Technology University case study was delivery issues.

The relationship with trading partners is an important social issue in the public sector. It is important that the procurer has a strong relationship with the trading partners, in order to ensure that negotiation processes can run smoothly. Good relationships with trading partners in the public sector are established because the procurer and the supplier typically have a well-established business relationship. Negotiations can run smoothly when a long-term relationship exists between the procurer and the supplier, because each party has a precise understanding of their mutual working environment due to their many experiences of working together. The business culture created between the two partners during their years of working together is one of the social issues that influence negotiation in e-procurement in the public sector.

Due to the fact that the public sector is governed by its own set of rules and regulations regarding business, then the process undertaken in regards to business with suppliers is also governed by particular rules and regulations. Therefore, the e-procurement systems used by the two universities are similar in their methods of procuring goods and services. Another issue that influences e-procurement is trust. Trust can be built through conversations, through providing information, through the development of relationships, through sharing knowledge, through working together with common goals, and through working to solve problems as a team. However, to gain trust by sharing information is difficult, unless both parties have a mutual understanding of the importance of, and a desire to reach, a win-win outcome in negotiation. In addition, having a good relationship with the supplier will also help the procurer to earn the supplier’s trust. Corporate social responsibility is another social issue identified by the public sector as an influence on negotiation. Negotiation between the procurer and supplier can be done effectively if both parties are aware of the importance of corporate social responsibility as one of the negotiation elements that need to be discussed when goods and services are
being traded. For instance, they may promise to provide environmentally-friendly goods such as recycled paper, but the details may indicate that such products could have been shipped a significant distance, causing excessive carbon emissions. It is therefore important that procurers specify certain minimum standard environmental requirements when dealing with suppliers in procuring goods and services.

9.3.2 Analysis and Discussion of Supplier Perspectives in the Public Sector

Figure 9.4 represents the similarities and differences between the social issues that influence negotiation in e-procurement in the public sector from the supplier’s perspective. The shaded area lists the similar opinions regarding the social issues influencing negotiation in e-procurement as identified in the Multimedia University and Technology University case studies. The non-shaded areas list the different opinions regarding the social issues that influence e-procurement.

![Figure 9.4: Similarities and differences between social issues that influence negotiation in e-procurement in the public sector from the supplier perspective](image)

Four similar categories of social issues were identified in the cross-case study regarding the public sector. The similar categories as represented in the shaded area in the figure
consist of corporate social responsibility, trust, culture, and relationships with trading partners. There were two categories of social issues identified at Multimedia University and one category of social issues identified at Technology University that differed from the suppliers’ perspectives. These different categories were the instability of market value and the need to preserve goodwill and reputation (at Multimedia University), and the influence of communication issues (at Technology University). The similarities in the social issues that influence negotiation in e-procurement between the two universities, from the supplier’s perspective, area result of the similar types of businesses that the suppliers deal with.

Social issues such as trust, culture, corporate social responsibility and relationships with trading partners are similar issues identified by both universities, because the goods and services procured by the universities are similar. The differences in perspectives regarding social issues, as expressed by both universities, are a result of the different rules and regulations regarding the procurement of goods and services that the suppliers need to follow. Having discussed the similarities and differences in the social issues influencing negotiation in e-procurement in the private and public sectors from the procurer and supplier perspectives, respectively, the following section discusses the similarities and differences in social issues within both the public and private sectors.

9.4 Analysis and Discussion of the Similarities and Differences between Social Issues and other Issues, and their Influence on Negotiation in E-Procurement within the Public and Private Sectors

Based on the discussion regarding the similarities and differences between the social issues and other issues that influence negotiation in e-procurement between the public and private sectors, as discussed previously, this section analyses and discusses the cases in the public and private sectors in regard to the similarities and differences between the social issues and other issues that influence negotiation in e-procurement from the perspective of procurers and suppliers.
### 9.4.1 Analysis of Public and Private Sectors from the Procurer and Supplier Perspectives

Figure 9.5 represents an analysis of the similarities and differences regarding the social issues and other issues that influence negotiation in e-procurement between the public and private sectors, from the perspectives of the procurers.

<table>
<thead>
<tr>
<th>Public Sector</th>
<th>Private Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability issues</td>
<td>Quality and availability of products</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Rules and regulations</td>
</tr>
<tr>
<td>Win-win outcomes</td>
<td>Currency exchange</td>
</tr>
<tr>
<td>Value for money</td>
<td>Price</td>
</tr>
<tr>
<td>Relationship with trading partners</td>
<td>Communications issues</td>
</tr>
<tr>
<td>Trust</td>
<td>Supplier’s offers</td>
</tr>
<tr>
<td>Culture</td>
<td>Quality performance of suppliers</td>
</tr>
<tr>
<td>Corporate social responsibility</td>
<td>Coordination between Divisions</td>
</tr>
<tr>
<td>Skills of negotiators</td>
<td>Awareness in choosing suppliers</td>
</tr>
<tr>
<td>Delivery issues</td>
<td></td>
</tr>
<tr>
<td>Supplier’s offers</td>
<td></td>
</tr>
<tr>
<td>Quality performance of suppliers</td>
<td></td>
</tr>
<tr>
<td>Coordination between Divisions</td>
<td></td>
</tr>
<tr>
<td>Awareness in choosing suppliers</td>
<td></td>
</tr>
</tbody>
</table>

![Figure 9.5](image)

Figure 9.5: Similarities and differences between social issues that influence negotiation in e-procurement between public and private sector from the procurer perspective

As shown in Figure 9.5, the similar factors influencing negotiation in e-procurement between the public and private sectors are focused on social issues only. This is due to different goals to be achieved in business. The business goal in the private sector is to maximise profit for the company, whereby the business goal in the public sector is to provide service. Therefore, negotiation in the e-procurement network between the public and private sectors can run smoothly when the social issues as influencing factors in negotiation in e-procurement are resolved. The shaded area represents the similar opinions regarding the social issues that influence negotiation in e-procurement, and the
non-shaded areas represent the different opinions regarding the social issues and other issues that influence negotiation in e-procurement. There were six similar categories identified, namely, corporate social responsibility, relationships with trading partners, trust, culture, the skills of negotiators and delivery issues. Four categories of social issues in the public sector and nine categories of social issues (including other issues) in the private sector differed from each other.

The differing social issues identified by procurers in the public sector were the sustainability issues, collaboration, win-win outcomes, and value for money. However, the differing issues identified in the private sector were the social issues, namely, suppliers’ offers, the quality of the performance of suppliers, coordination between divisions, awareness in choosing suppliers, the quality and availability of products, rules and regulations, and communication issues. The differing non-social issues identified in the private sector were currency exchange and price (refer to Section 9.2).

The following figure shows the similarities and differences of social issues that influence negotiation in e-procurement between the public and private sectors from the perspective of the suppliers. Figure 9.6 represents the similar and differing social issues between the public and private sectors as they relate to negotiation in e-procurement.
The shaded area represents the similar opinions regarding the social issues that influence negotiation in e-procurement, and the non-shaded area represents the different opinions on the social issues that influence negotiation in e-procurement. There were six similar categories of social issues identified, which consisted of corporate social responsibility, relationships with trading partners, trust, culture, the skills of negotiators and delivery issues. There were four differing categories of social issues in the public sector, and nine such categories of social issues in the private sector. The differing social issues, from the perspective of the suppliers in the public sector, were sustainability issues, collaboration, win-win outcomes and value for money. The differing social issues in the private sector were the suppliers’ offers, the quality of the performance of suppliers, coordination between divisions, awareness in choosing suppliers, the quality and availability of products, the associated rules and regulations, currency exchange, price and communication issues.
Based on the cross-case analysis of the similar and differing social issues that influence negotiation in the sourcing process in e-procurement as described above, specifically between the public and private sector from the procurer and supplier perspectives, the next section discusses the findings with due consideration of the relevant literature.

9.4.2 Discussion of the Social Issues that Influence Negotiation in Sourcing in E-Procurement within the Public and Private Sectors

Figure 9.5 and Figure 9.6 above show that a similar set of social issues influence negotiation in e-procurement in the public and private sectors, as identified by both procurers and suppliers. These social issues include:

- **Relationship with trading partners** - As introduced in Chapter 2 (Section 2.9.1.3), relationship with trading partners is one of the social issues that may potentially influence business negotiation in e-procurement. Based on the findings gathered from each case study in the public and private sectors, specifically those gathered from the procurer perspective (Sections 5.5.1, 6.5.1, 7.5.1 and 8.5.1) and from the supplier perspective (Sections 5.5.2, 6.5.2, 7.5.2 and 8.5.2), both parties stated that relationship with trading partners is a social issue which can influence business negotiation in e-procurement. The definition on the relationship with trading partners as a factor influencing negotiation in e-procurement identified from the case studies is described in Table 9.9 and these findings are confirmed in the literature which discusses the relationship with trading partners as a social issue that influences business negotiation. For example, Rammal (2005) pointed out that for personal relationships in business negotiation to succeed, there is a need to build relationships between business negotiators. This is because relationships with trading partners will have an impact on financial performance, new product development and strategic sourcing (Carr and Pearson 1999; Ragatz et al. 1997; Carr and Pearson 2002).
Table 9.7: The revised definition of the relationship with trading partners in negotiation in e-procurement

<table>
<thead>
<tr>
<th>Social Issue</th>
<th>Definitions in the Literature</th>
<th>Revised definition based on Abu Bakar (2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship with trading partners</td>
<td>- Relationship with trading partners means developing relationships with various types of firms (Ritter et al. 2004)</td>
<td>Relationship with trading partners in negotiation in e-procurement means developing, managing and maintaining relationship with the procurement network that involves internal and external groups of actors such as trading partners, internal departments, parent companies, and various firms including profit and non-profit organisations for the purpose of expediting the procurement process</td>
</tr>
<tr>
<td></td>
<td>- Relationship with trading partners means managing business relationships and networks between trading partners (Ritter et al. 2004)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Relationship with trading partners means managing long-term relationships with key trading partners (Rammal 2005)</td>
<td></td>
</tr>
</tbody>
</table>

- **Culture** – As introduced in Chapter 2 (Section 2.9.1.1), culture is one of the social issues that may potentially influence business negotiations in e-procurement. Based on the findings gathered from each case study in the public and private sector, specifically those gathered from the procurers perspective (Sections 5.5.1, 6.5.1, 7.5.1 and 8.5.1) and from the suppliers perspective (Sections 5.5.2, 6.5.2, 7.5.2 and 8.5.2), both parties stated that relationship with trading partners is a social issue which can influence business negotiation in e-procurement. The definition of culture as a factor influencing negotiation in e-procurement as identified from the case studies is described in Table 9.10 and these findings are confirmed by the literature which discusses culture as a social issue that influences business negotiation. For example, Salacuse (1998), Sebenius (2002) and Kumar and Worm (2003), have shown that culture has an impact on the negotiation process, specifically culture as related to a person’s cultural background. In addition, Hofstede (1998), Adair et al. (2004) and
Sheer and Chan (2003) found that sharing a similar professional culture can influence the choices of strategies which negotiators adopt when entering business negotiations.

Table 9.8: The revised definitions of culture in negotiation in e-procurement

<table>
<thead>
<tr>
<th>Social Issue</th>
<th>Definitions in the Literature</th>
<th>Revised definition based on Abu Bakar (2013)</th>
</tr>
</thead>
</table>
| Culture      | -Sharing similar professional culture makes it easier for negotiators to discuss the issues they face (Hofstede 1989)  
-Understanding the other negotiating party’s cultural characteristics can help negotiators plan and focus on their information exchange (Adair et al. 2004)  
-Current information technology supports and facilitates the way organisations conduct their business beyond national boundaries (Corbitt et al. 2004)  
-Ten dimensions has been identified which enable negotiators to systematically adjust their expectations and negotiation practices accordingly (Metcalf et al. 2006)  
-Each individual is influenced by a number of cultures, each of which can affect their own negotiation style (Sevenius 2002) | Culture involves a need to be acknowledged, understood and be incorporated by organisations deals with a range of different behaviours, expressed by different people from different countries doing business transactions  
Culture is about understanding other people’s culture and organisational working culture, accommodating different cultures with the purpose of working together and being respectful of different languages, accents, and both verbal or written communication |

- **Trust** – As introduced in Chapter 2 (Section 2.9.1.2), trust is one of the social issues that may potentially influence business negotiations in e-procurement. Based on the
findings gathered from each case study in the public and private sectors, specifically those gathered from the procurer perspective (Sections 5.5.1, 6.5.1, 7.5.1 and 8.5.1) and from the supplier perspective (Sections 5.5.2, 6.5.2, 7.5.2 and 8.5.2), both parties stated that trust is a social issue which can influence business negotiations in e-procurement. The definition of the relationship with trading partners as a factor influencing negotiation in e-procurement as identified from the case studies is described in Table 9.9 and these findings are confirmed by the literature which discusses trust as a social issue that influences business negotiation. For example, Chan and Lee (2003) stated that relationships between procurers and suppliers should be based on trust, because trust is an essential tool that allows for the sharing of information between trading partners.

Table 9.9: The Revised definition of trust in negotiation in e-procurement

<table>
<thead>
<tr>
<th>Social Issue</th>
<th>Definitions in the Literature</th>
<th>Revised Definition based on Abu Bakar (2013)</th>
</tr>
</thead>
</table>
| Trust        | - Relationships between procurers and suppliers should be based on trust (Chan and Lee 2003)  
-Terminal partner trust and electronic trust are factors that should be considered before participating in e-commerce (Tung et al. 2003)  
-Trust mechanisms are needed to ensure problems in electronic negotiation can be resolved (Schoop 2005)  
- Negotiators who establish rapport prior to commencing negotiation via email report significantly higher levels of trust (Carter et al. 2003) | Trust is about respecting each other and understanding each other’s needs during transaction. Trust is a commitment made between trading partners in business. Partners need to keep their promises made in their discussions. Trust can be built through conversation, providing information, developing relationships, sharing knowledge, working together with common goals and solving problems together. |
• **Corporate social responsibility** – The influence of CSR is a new finding in regard to the social issues that influence business negotiations in e-procurement in the public and private sectors. Based on the findings identified through each of the case studies in the public and private sectors, from the procurer and supplier perspectives, both parties describe corporate social responsibility as a social issue that influences business negotiations in e-procurement. The cross-case analysis of the perspectives of procurers and suppliers across both the public and private sectors also supports the finding that CSR is an issue that influences business negotiation in e-procurement. Dahlsrud (2006) identified the dimension of corporate social responsibility as a social dimension which involves the relationship with business and society through the contribution of business to a better society. UNIDO (2000) reported that corporate social responsibility is about the responsibility of business in society. Campbell (2007) investigated the implications of corporate social responsibility for SMEs in developing countries and found that corporate behaviour is mediated by several institutional conditions including public and private regulations and the presence of non-governmental bodies. Whilst Corporate Social Responsibility has been discussed in the literature, there is nothing in regards to Corporate Social Responsibility and e-procurement and negotiation. Therefore, the definition based on Abu Bakar (2013) on corporate social responsibility is about the involvement of different parties in business to ensure the environmental sustainability of business transaction especially in e-procurement is sustained. In addition, the environmental sustainability can only be achieved in negotiation in e-procurement if each parties involved in negotiation understand their roles while involving in e-procurement.
9.5 E-Procurement Tools used in Negotiation

The following section discusses the e-procurement devices used in negotiations in e-procurement networks in the public and private sectors.

9.5.1 E-Procurement Systems in the Private Sector

While the e-procurement systems used by CMC and AVC are different, there are similarities in their use of the systems in order to communicate with suppliers. Table 9.10 presents the differences and similarities of the systems used by the private sector companies to procure goods.

<table>
<thead>
<tr>
<th>Company</th>
<th>E-Procurement System</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMC</td>
<td>RFQ system, Email, Video and audio conferences</td>
</tr>
<tr>
<td>AVC</td>
<td>SPEC 2000, Email, -</td>
</tr>
</tbody>
</table>

The e-procurement systems used in the private sector typically rely on the Internet. In this case, electronic tools are used to communicate with suppliers. The electronic tools used include the RFQ software, the SPEC 2000 software, and email, video and audio conferencing. Each of these electronic tools are used to support the respective procurement managers in procuring goods and services (Section 7.3 and Section 8.3 respectively). There were similarities and differences related to the use of electronic tools to procure goods and services in the private sector.

CMC uses RFQ software as an electronic tool to procure goods and services from its suppliers. CMC sends a RFQ form via the Internet to pre-determined suppliers, in order to request the products needed. The pre-determined supplier will then respond to the RFQ form via the Internet, which will contain the supplier information required by CMC. Based on the information provided through the RFQ form, the Procurement Manager will
select the appropriate supplier to conduct business with. Another electronic tool used by CMC is email, through which suppliers are communicated with on a daily basis. CMC also uses audio and video conferencing to communicate with its suppliers, particularly suppliers in overseas locations.

AVC uses SPEC 2000 software as an electronic tool for procuring goods and services. SPEC 2000 is used to send requests, and is used by both procurers and suppliers to order goods and services. The entire standard format used by AVC to order goods and services is SPEC 2000. Another electronic tool used to communicate with suppliers on a daily basis is email, which enables information enquiries to travel faster between procurers and suppliers.

The e-procurement system chosen by the companies in the private sector depends on the types of suppliers that the procurers are dealing with. For instance, most suppliers in the private sector come from Australia, making email the easiest and fastest way for procurers to communicate with them. However, phone conversations are needed to follow up communication with suppliers, so that negotiation can take place effectively. In addition, due to the different types of business conducted by CMC and AVC, different types of e-procurement software are used in assisting them to procure goods and services. This software (RFQ and SPEC 2000), is designed to assist companies in procuring goods and services. This software is used to expedite the negotiation in regard to e-procurement between the trading partners. AVC and CMC can both gain benefits through communicating via e-procurement tools and not via phone, such as cutting administration expenses.

9.5.2 E-Procurement System in the Public Sector

The e-procurement systems used at the universities are similar, because both organisations have similar business backgrounds. Table 9.11 presents the similarities between the systems used to procure goods in these public sector organisations.
Table 9.11: E-procurement systems used in the public sector

<table>
<thead>
<tr>
<th>Public Sector</th>
<th>E-Procurement System</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>E-tendering, NetCreative</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>E-tendering portal, Electronic catalogue system</td>
<td>Email</td>
</tr>
</tbody>
</table>

The e-procurement systems used in procuring goods and services at the universities are similar. Both universities use e-tendering systems to procure goods, through the use of open tenders to potential suppliers. NetCreative and the order system are the online ordering systems used by the universities. The systems are provided by suppliers and are used to order goods from suppliers. Email is also used to communicate with the suppliers in regards to the procuring of goods and services.

Using e-procurement as negotiation tools in the e-procurement network can help to expedite the communication between the companies in the procurement process. However, there are social issues that will influence the use of the e-procurement system in the negotiation process. The following section discusses the impact of social issues in negotiation in e-procurement from the ANT perspective.

9.6 Impact of Social Issues on Negotiation in E-Procurement from ANT Perspective

Through the study of the social issues that influence negotiation in e-procurement in the public and private sectors, two elements that impact on negotiation in e-procurement in both the public and private sectors are identified. These elements are the sourcing elements and the network. Each of these elements is explained further in the following sections.
9.6.1 Sourcing Element as Non-Human Actor

The different social issues between CMC and AVC are the result of several factors. One factor is the type of products being procured from the suppliers. The decisions made in regard to the types of product procured by the Procurement Department at CMC are dependent on the information provided by the company’s internal expert groups before products can be procured. Therefore, coordination among the different divisions at CMC is one of the social issues that influence negotiation in e-procurement in the company.

Another cause for the differences between the social issues that influence negotiation at CMC and AVC relate to the types of suppliers that they select. The types of suppliers chosen by each company depend on the nature of the business. CMC is more concerned with the criteria it uses to carefully select from the suppliers available, because there are many suppliers in the market who can provide the latest technologies required by the company. Therefore, CMC needs to compete with other car manufacturing companies in selecting suppliers with the latest technologies. Thus, a number of social issues including suppliers’ offers, the quality of the performance of the suppliers, and awareness in choosing suppliers, significantly influence e-procurement for the company. AVC, on the other hand, is more concerned with product availability because it needs to obtain products on time in order to ensure that the aircraft can operate on schedule. Thus, social issues such as the quality and availability of products, lead and delivery times, and the skills of suppliers as negotiators all become social issues that influence negotiation in e-procurement for AVC.

The cause of the similarities and differences identified in regard to the social issues that influence negotiation, as identified in the private sector, are the sourcing elements that were identified during the cross-case analysis. Table 9.12 presents the sourcing elements that cause the social issues that influence negotiation in e-procurement in the private sector, from the procurer perspective, while identifying related similarities and differences.
Table 9.12: Sourcing elements as non-human actors in negotiation in e-procurement network

<table>
<thead>
<tr>
<th>Sourcing Elements</th>
<th>CMC</th>
<th>AVC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products procured from suppliers</td>
<td>• Specific types of products that feature cutting edge technology</td>
<td>• Specific types of products for specific types of aircraft</td>
</tr>
<tr>
<td></td>
<td>• Products procured meant to produce vehicles</td>
<td>• Products procured meant to service airlines</td>
</tr>
<tr>
<td></td>
<td>• Determined by the groups of experts, including the Procurement Team, the Engineering Team and the Cost Estimation Team</td>
<td>• Determined by the manufacturers employed by aircraft companies</td>
</tr>
<tr>
<td>Selection of the types of suppliers</td>
<td>• Purchasing Team needs to follow the specification for products as prepared by the Engineering Team</td>
<td>• Purchasing teams need to get approval from the Quality Control Department in regards to the list of potential suppliers</td>
</tr>
<tr>
<td></td>
<td>• Maintaining the parent company as one of the suppliers</td>
<td>• Maintaining one particular supplier is needed because aviation is a niche market</td>
</tr>
<tr>
<td></td>
<td>• Determined by the Purchasing Team</td>
<td>• Determined by the Purchasing Team</td>
</tr>
<tr>
<td>Systems used to interact with suppliers</td>
<td>• Using the RFQ software and email to interact with suppliers</td>
<td>• Using SPEC 2000 software as an online ordering system, and using email to interact with suppliers</td>
</tr>
<tr>
<td></td>
<td>• Using video and audio conferences</td>
<td>• Using face-to-face contact and phone conversations to interact with suppliers</td>
</tr>
<tr>
<td></td>
<td>• Using face-to-face contact to interact with suppliers</td>
<td></td>
</tr>
<tr>
<td>Structure of negotiations with suppliers</td>
<td>• Commences when RFQ-formatted documents are sent to potential suppliers</td>
<td>• Commences when there is a need to procure products for inventories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Commences when aircraft are in maintenance and need to be repaired</td>
</tr>
</tbody>
</table>

The sourcing process used in e-procurement by CMC and AVC when working with suppliers affects their procurement teams in terms of the decisions they make regarding suppliers. There will be similar and different approaches taken by both companies in regard to their sourcing process. Some differing aspects are the involvement of internal and external parties in the sourcing process, the association of the parties involved with
the procurement team, the communication systems used to deal with suppliers, and the
decision-making processes used for sourcing by both CMC and AVC. The elements that
influence the sourcing process in e-procurement, as experienced by the two companies
studied in the private sector, are associated with the processes of selecting the products to
be procured, selecting suppliers, and conducting negotiations with suppliers.

The products procured from suppliers are one matter of difference between the two
companies. CMC procures specific types of products, which utilise cutting edge
technology. The products procured are used to produce vehicles, and are selected by
numerous expert groups at the company including the Engineering Team, the Cost
Estimation Team and the Purchasing Team. On the other hand, AVC procures highly-
specialised products for specific types of aircrafts. The products procured in this case are
used to service aircraft for airline companies, and the specific products to be procured are
determined by the manufacturers of the aircraft.

The selection of suppliers was another area of difference between the two companies. At
CMC, the company’s suppliers are selected by the Purchasing Team. In this case the
Purchasing Team follows the product specifications prepared by the Engineering Team
and the Cost Estimation Team, which will lead the Purchasing Team to select an
appropriate supplier. CMC has maintained its parent company as a supplier. The
suppliers chosen by AVC are also selected by the company’s Purchasing Team, but in
this case the team needs to obtain approval from the Quality Control Department in order
to ensure that the potential suppliers on the list are reliable. Finally, the selection of
suppliers is determined by the Purchasing Team.

Another difference between the two companies relates to the media used to interact with
suppliers. CMC uses RFQ software and email to interact with its suppliers, while the
company’s Purchasing Team also uses video and audio conferences to interact with
suppliers. In addition, the Purchasing Team uses face-to-face contact and phone to
interact with suppliers. In contrast, AVC uses SPEC 2000 software via an online
ordering system and email to interact with its suppliers. The Purchasing Team also uses face-to-face contact and the telephone to interact with their suppliers.

Another element of difference relates to the structure of negotiation undertaken with suppliers. Negotiation with suppliers at CMC commences when RFQ forms are sent to pre-determined suppliers to order goods using the RFQ software. However, AVC starts to negotiate with its suppliers when the Purchasing Team decides to procure goods for inventory, or when an aircraft is in for maintenance.

The above explanation of sourcing elements demonstrates the importance of sourcing in regard to negotiations between partners, and indicates that sourcing elements can be an area of similarity or difference regarding the social issues that influence negotiation in e-procurement. Therefore, negotiations in e-procurement are not only influenced by social issues as non-human actors, but also by sourcing elements as non-human actors from the procurer’s perspectives in the private sector.

The next section analyses and discusses the similarities and differences related to the social issues that influence negotiation in e-procurement in the private sector, from the supplier perspective.

The differences relating to the social issues that influence negotiation at Multimedia University and Technology University are a result of many causes. One cause is the distance between the universities and their suppliers. Many suppliers utilised by the universities are local, but Multimedia University is located closer to its suppliers when compared to Technology University. Therefore, when suppliers deliver goods to Technology University, a number of problems may occur. One of these problems may be that the goods procured might not be delivered on time. Another cause for Technology University and Multimedia University to have different perspectives is due to the type of trading partners that they deal with. The relevant staffs at Multimedia University need to have the negotiation skills to work with different types of trading partners, such as non-
profit organisations and supplier companies. When dealing with suppliers, price will be an issue. In contrast, when dealing with non-profit organisations, collaboration and win-win outcomes are two issues that may influence the negotiations in the e-procurement. The causes of the similarities and differences between the social issues that influence negotiation, as identified in the public sector, relate to the location of suppliers and the types of trading partners involved. These causes have been identified from the cross-case analysis. Table 9.13 presents the causes of the similarities and differences between the social issues that influence negotiation in the public sector.

Table 9.13: Elements that cause similarities and differences between social issues that influence negotiation in e-procurement in the public sector

<table>
<thead>
<tr>
<th>Sourcing Elements</th>
<th>Multimedia University</th>
<th>Technology University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of suppliers</td>
<td>• Local suppliers’ location near to the university</td>
<td>• Local suppliers’ location far from the university</td>
</tr>
<tr>
<td>Types of trading partners</td>
<td>• Trading partners consist of supplier companies and non-profit organisations</td>
<td>• Trading partners consist solely of supplier companies</td>
</tr>
</tbody>
</table>

The sourcing processes undertaken in e-procurement at universities with their suppliers affect the procurement teams in their decisions regarding suppliers. There will be similar and different approaches taken by both companies in own sourcing processes. The elements that influence the sourcing process in e-procurement from the two universities in the public sector are associated with both the locations of local suppliers, and the types of trading partners that both universities are dealing with.

The location of local suppliers is an important matter. Most suppliers in the public sector are local suppliers, and most of them are located near to the universities. However, some universities are located far from their suppliers. When universities are located far from their suppliers, then the delivery of goods may be delayed, and the goods delivered may be damaged upon arrival. Thus, the fact that Multimedia University is located far from its suppliers, while Technology University is located close to its suppliers, is a factor that
influences negotiation. The location of suppliers in regards to their trading partners plays an important role in negotiation in e-procurement networks, because of its impact on the condition of the goods delivered.

Another factor that influences negotiation at universities is the types of trading partners being worked with. The trading partners at Multimedia University include a non-profit organisation, and the purpose of maintaining this business relationship is for Multimedia University to be recognised as a fair-trade organisation (through the certification provided by the Fair-Trade Association in Australia). The resulting recognition will impact on the university’s relationship with other parties. For instance, should the university utilise a particular brand as the appropriate supplier of fair-trade products such as coffee, the Fair-Trade Association will recognise the university as both a fair-trade organisation and a supporter of similar organisations.

The explanation of sourcing elements provided above indicates the importance of sourcing between the partners, particularly when the sourcing elements result in similarities and differences between the social issues that impact on negotiation in e-procurement. Therefore, negotiations in e-procurement in the public sector are not only influenced by the social issues, but also by the sourcing elements identified from the procurer perspective. The next section analyses and discusses the similarities and differences between social issues that influence negotiation in e-procurement in the public sector, from the supplier perspective.

Through the discussion regarding the causes of similarities and differences of the social issues that influence business negotiation in e-procurement in the public and private sector, it is concluded that the social issues impact the sourcing elements in business negotiation in e-procurement. The sourcing elements that are related to business negotiation in e-procurement include the products procured from suppliers, the types of supplier selection processes, the systems used to interact with suppliers, the structure of negotiations with suppliers, the locations of supplier, and the types of trading partners
that the procurers deal with. The sourcing elements identified are other non-human actors involved in negotiation in e-procurement, in addition to the social issues that influence negotiation in e-procurement. These non-human actors are essential factors that will influence negotiation in e-procurement. Procurement Managers should be aware of the importance of the identified non-human actors, to assist them in expediting negotiation processes. As stated by Moro (2003) and Smeltzer et al. (2003), one of the important elements in sourcing is negotiation. Thus, sourcing and negotiation should be integrated, in order to ensure that negotiation processes run effectively.

Sourcing is defined as the process used to select the right supplier needed to procure goods and services (Zenz 1994; Bichler et al. 2001), and this definition has been extended further to cover the process of managing suppliers in order to help organisations achieve their corporate goals (Turban 2008). Hence, the definition of sourcing is related to the involvement of suppliers in procuring goods and services. As the research detailed in this study has found, the sourcing elements identified as non-human actors are involved in issues related to supplier selection, the types of suppliers that the procurers are dealing with, the systems used to interact with suppliers, the products procured from suppliers, the location of suppliers, and the structure of the negotiations undertaken with suppliers. Table 9.14 presents the sourcing elements related to suppliers and non-human actors that influence negotiation in e-procurement.
Table 9.14: Sourcing elements as non-human actors related to negotiation in e-procurement

<table>
<thead>
<tr>
<th>Non-Human Actors</th>
<th>Sourcing Elements Related to Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The systems used for interaction including e-procurement tools such as email, e-tendering, SPEC 2000 and the RFQ system</td>
<td>Interaction with suppliers through the system being used</td>
</tr>
<tr>
<td>Products procured, such as stationery</td>
<td>Procuring products from suppliers</td>
</tr>
<tr>
<td>Location of suppliers, which can be local, interstate or overseas</td>
<td>Place of supplier involved in the procuring of goods and services</td>
</tr>
<tr>
<td>Types of suppliers involved, including local suppliers, international suppliers</td>
<td>Selection of suppliers, in order to ensure that negotiation can run smoothly</td>
</tr>
<tr>
<td>Structure of negotiations with suppliers, such as the hierarchy of people involved in the negotiation processes in supplier organisations</td>
<td>Negotiation with suppliers</td>
</tr>
</tbody>
</table>

Table 9.8 shows the involvement of non-human actors as factors that influence negotiation in e-procurement. Hence, in order to ensure that negotiation in e-procurement can run smoothly, non-human actors should be one of the essential elements used in assisting human actors to make decisions regarding procurement. Procuring organisations need to be more aware of the influences of the non-human actor elements on negotiation, particularly in the e-procurement. This is due to the complexity and variety of networks which are present in the electronic system used in the procuring of goods and services.

9.6.2 Networks in Business Negotiation as Human and Non-Human Actors

The findings in this research indicate the impact of social issues influencing business negotiations in e-procurement through the creation of networks in the public and private
sectors. Business negotiation in e-procurement involves internal and external networks. The internal network in business negotiation refers to the procurement departments, which are associated with internal groups within companies, in order to assist them in undertaking the procurement process. The involvement of internal groups that assist the procurement department is based on the needs of the department. The external network in business negotiation refers to the connections the procurement department has with external groups. The external groups involved in the procurement process vary depending on the types of business being undertaken by the company. For instance, in procuring goods, CMC relies on suppliers from local areas, as compared to AVC where the goods are mostly procured from overseas. Table 9.15 presents the internal and external networks related to business negotiations in e-procurement in the public and private sectors.
Table 9.15: Networks and negotiation in e-procurement in the public and private sectors

<table>
<thead>
<tr>
<th>Network Elements</th>
<th>Sector</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>• Engineering Team</td>
<td>• Other departments in the university</td>
</tr>
<tr>
<td></td>
<td>• Cost Estimation Team</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Supplier Parent Company</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Quality Control Division</td>
<td></td>
</tr>
<tr>
<td>External</td>
<td>• Suppliers</td>
<td>• Suppliers</td>
</tr>
<tr>
<td></td>
<td>• Aircraft Manufacturer Company</td>
<td>• Fair-trade team organisation</td>
</tr>
<tr>
<td></td>
<td>• Engineering Team of the Aircraft Company</td>
<td></td>
</tr>
<tr>
<td>Negotiation</td>
<td>• Negotiate with the Engineering Team to prepare specification of the products procured</td>
<td>• Assist Multimedia University to get the best outcome for the university</td>
</tr>
<tr>
<td></td>
<td>• Negotiate with the Cost Estimation Team to prepare costing on the products being procured.</td>
<td>• Maintain relationships among parties involved, such as other departments at the university</td>
</tr>
<tr>
<td></td>
<td>• Supplier negotiates with its parent company to order products based on demand presented by CMC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Negotiate with the Quality Control Division to get approval regarding the supplier listing</td>
<td></td>
</tr>
<tr>
<td>External</td>
<td>• Procurement Team negotiates with suppliers in order to procure products</td>
<td>• Trading transaction</td>
</tr>
<tr>
<td></td>
<td>• Quality Control Division negotiates with the aircraft manufacturer to get approval regarding the products procured by the Procurement Team</td>
<td>• Building relationships</td>
</tr>
<tr>
<td></td>
<td>• Procurement Team negotiates with suppliers in order to procure products</td>
<td>• Collaboration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rationalisation in decision-making</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Following rules and regulations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Understanding the systems used</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Integrating social issues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Establishing relationships</td>
</tr>
</tbody>
</table>

Based on Table 9.9 above, the internal and external networks in the public and private sectors show the interactions between groups of human actors. The interaction between human-to-human actors involved in business negotiations is fundamentally between the Procurement Managers and suppliers in both sectors. However, due to the complex business process involved in procuring goods and services in the public and private sectors, the involvement of groups of human actors varies. The involvement of human-
to-human groups for internal networks in the private sector include the groups between the Procurement Manager and the Engineering Team, the Cost Estimation Team, the Quality Control Team and the supplier for private sector. In the public sector, the groups are between the Procurement Manager and the other departments at the university. The involvement of human-to-human groups for the external networks includes the group between the Procurement Manager and the aircraft manufacturer and the Engineering Team of the aircraft company for the private sector, and the group between the Procurement Manager and the Fair-Trade organisation in the public sector.

The network between groups in business negotiations in e-procurement not only involves human-to-human interaction, but also human-to-non-human interaction. Table 9.16 presents a summary of the network relationships between the human and non-human actors in the public and private sector networks.
Table 9.16: Network relationships between human and non-human actors in the public and private sectors

<table>
<thead>
<tr>
<th>Type</th>
<th>Network</th>
<th>Actors</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Network</td>
<td>Human-to-Human</td>
<td>Procurer and Supplier</td>
<td>- Trading transaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procurer and Fair-Trade organisation</td>
<td>- Building relationships</td>
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<td></td>
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<td>- Collaboration</td>
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<td>- Rationalisation in decision-making</td>
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<td></td>
<td>Human-to-Non-human</td>
<td>Procurer and Supplier</td>
<td>- Following rules and regulations</td>
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<td></td>
<td></td>
<td>- Organisation</td>
<td>- Understanding the system used</td>
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<td></td>
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<td>- Procurement policies</td>
<td>- Integrating social issues</td>
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<td>- Negotiation mediums</td>
<td>- Establishing relationships</td>
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<td>- Social issues influencing Negotiation</td>
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<td></td>
<td></td>
<td>- Products procured</td>
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<td></td>
<td>- Fair-Trade Organisation</td>
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<td></td>
<td></td>
<td>- Supplier companies</td>
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<tr>
<td></td>
<td>Non-human to non-human</td>
<td>Interrelated among all non-human actors</td>
<td>- Ensuring procurement process success</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Negotiation/communication mediums</td>
<td>- Expediting procurement process</td>
</tr>
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<td></td>
<td></td>
<td>- Procurement policies</td>
<td>- Getting the best outcome for procurers and suppliers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Products procured</td>
<td>- Assisting negotiation processes</td>
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<td></td>
<td></td>
<td>- Organisations</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- Social issues influencing negotiation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal Network</td>
<td>Organisations</td>
<td>- Assisting university to get the best possible outcomes</td>
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<td></td>
<td>- University and other departments</td>
<td>- Maintaining relationships among the parties involved</td>
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<td>- CMC and other departments, such as the Engineering Department</td>
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<td></td>
<td>- and the Cost Estimation Department</td>
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<td>- AVC and the Quality Control Division</td>
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the networks involved in negotiation in e-procurement, the present research has pointed out that each actor involved relates to each other in order to ensure that negotiations can run effectively. The focal actor, such as the procurement manager, plays an important role in ensuring that negotiations succeed. With the e-procurement tools used to assist them in negotiation, the negotiation process can be expedited. The procurement manager needs help from other human actors such as managers from other departments or divisions to make a decision in regard to procuring goods and services. The support that the procurement manager gets from other actors during the negotiation process shows that he has managed to convince other actors to work together with him. As stated by Callon and Latour (1981), all actors have interests, and they all try to convince other actors to create an alignment between the other actors’ interests and their own.

In achieving the goals of each party involved in negotiation in e-procurement, the social issues that influence negotiation should be identified as one of the non-human actors that will influence a procurement manager in making decisions regarding procurement. The social issues are essential factors, consideration of which is required in order to ensure that negotiation succeeds as a part of an e-procurement process. As stated by Abu Bakar and Peszynski (2010), social issues are important factors that help to ensure the success of negotiation in e-procurement in the public sector. In addition, the integration of social issues as a strategy to assist negotiation in e-procurement will help negotiators to make decisions effectively. The sourcing elements are also identified as non-human actors that can influence negotiation in e-procurement networks. Thus, in order for negotiation in an e-procurement network to succeed and stabilise, organisations should be aware of the importance of human and non-human actors in creating a network.

9.7 Summary

Finally, to conclude this chapter, it is observed that the use of e-procurement in negotiations as part of the sourcing process can be improved if the parties involved are aware of the importance of social issues, especially in regard to their roles in the
negotiation in e-procurement. The elements in sourcing that are part of the non-human actor influence on negotiation in e-procurement have been discovered through the cross-case analysis. Thus, in ensuring that negotiation in e-procurement is a success, the purchasing organisations should understand and realise the importance of the involvement of human and non-human actors. Non-human actors in this case include the social issues and sourcing elements that influence the negotiations in e-procurement.

Actor-network theory is a fitting theory to use to explain the phenomenon of negotiation in the sourcing process in e-procurement networks, because the core of the theory regards the associated involvement of human and non-human actors. By using the theory as a lens to explain the phenomenon, the new role of actors involved can be revealed, and the networks among them can be further understood. By knowing the roles, networks and factors that influence negotiation in the sourcing processes within e-procurement networks, the value chain linking the groups involved in negotiations can be improved and strengthened. Furthermore, the scope of the negotiations which involve non-human actors can be explored and identified. The following chapter is the final chapter that concludes this research regarding negotiation in e-procurement from the ANT perspective.
Chapter 10 – Conclusion

10.1 Introduction

This chapter concludes the research on negotiation in the sourcing process between partners in e-procurement networks from the ANT perspective. There are three main sections in this chapter. The first section responds to the thesis research questions. The second section highlights the contributions made to the body of knowledge, and the final section highlights the limitations of this study and makes recommendations for possible directions in future research.

10.2 Responding to the Research Questions

In this section, the research questions set out in Chapter 1 (Section 1.4) are revisited in order to describe how they have been addressed in this research. Firstly, the study set out to answer the following main research question:

How does negotiation operate in the sourcing process between partners in an e-procurement network?

Three sub-questions were designed to facilitate the research. Each of these is discussed as follows:

(i) What are the roles of buyers and suppliers in business negotiation in an e-procurement network?

The roles of procurers and suppliers in negotiation in an e-procurement environment were explored via four case studies. The research discovered that there is a need to identify the role of procurers and suppliers for negotiation in e-procurement in the public and private sectors. This is because negotiation in e-procurement is a complex network that needs new negotiation strategies for negotiators, especially for procurers and suppliers. In addition, by understanding the roles played by procurers and suppliers in business negotiations in an e-procurement environment, the value chain
among them can develop. The new roles of procurement professionals should focus on creating, managing, and maintaining strategic relationships with suppliers. However, these roles also apply to the people involved within procurement organisations. The effectiveness of business negotiations can be enhanced through the improvement of an effective business value chain. The effective value chain means the establishment of new roles for the people involved in negotiation processes, both internally and externally. Table 10.1 presents a summary of the proposed roles for procurers and suppliers in negotiation in e-procurement, as determined from the four case studies.

Table 10.1: Summary of proposed roles for procurers and suppliers as human actors in negotiation in e-procurement

<table>
<thead>
<tr>
<th>Human Actors</th>
<th>Roles</th>
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| Procurer     | • Managing strategic sourcing and procurement  
               • Negotiating and establishing major contracts  
               • Handling supplier management  
               • Supporting local level procurement activities  
               • Coordinating with the procurement group in the relevant department  
               • Maintaining relationships with suppliers  
               • Ensuring continuous product supplies for the business |
| Supplier     | • Managing relationships with trading partners  
               • Monitoring business operations with trading partners  
               • Ensuring that all services provided to trading partners are properly managed  
               • Developing business with trading partners  
               • Reporting performance to parent companies |

In conclusion, procurers and suppliers are the negotiators in their e-procurement environment, both in the public and private sectors. Their role is not only to try to manage the relationships with clients or customers, but also to be aware of other factors that can influence the negotiations, particularly in regard to e-procurement.
environments. However, the influencing factors are not only the result of traits of human behaviour. Indeed, non-human factors can also influence negotiations in e-procurement. Thus, all negotiators, including procurers and suppliers, should be aware of the influences of particular social issues. These social issues were explored in relation to the next research question.

**(ii) What are the social issues that influence business negotiation in the sourcing process in an e-procurement network?**

The social issues that serve as factors influencing business negotiations in e-procurement were investigated via four case studies. The impacts of social issues on business negotiations were discussed in the cross-case analysis (Chapter 9). By identifying the social issues that influence negotiation between trading partners, negotiations can run seamlessly between trading partners because purchasing organisations can enhance their understanding of what the relevant social issues are, and how and why they can assist in negotiation processes. Furthermore, identifying the social issues that influence negotiation in e-procurement can be recommended as one of the strategic tools that can be utilised for effective business negotiation in e-procurement. Even with the use of an e-procurement system designed to procure products as a system that involves communication via electronic means, trading partners should realise that social issues remain the main issues that influence business negotiations in the e-procurement environment. Being aware of these issues can also help organisations to improve their business negotiations with trading partners. The social issues that influence negotiation vary, and they greatly depend on the nature of the organisations involved in the negotiation at hand. For example, if the types of products are very specific, then a good relationship with suppliers or customers will be essential in ensuring that the negotiations between trading partners can succeed. Through the case studies, this research has identified social issues as non-human actors that influence negotiation in an e-procurement network in the public and private sectors (Sections 5.5.1, 6.5.1, 7.5.1, 8.5.1, 5.5.2, 6.5.2, 7.5.2, 8.5.2 and 9.6).
Business negotiations in e-procurement differ between the public and private sectors, due to differences in the e-procurement tools being used to procure goods and services, which in turn is due to the fact that the types of goods being procured by these two sectors are very different. The social issues that influence negotiation in e-procurement also differ between the public and private sectors, due to the different natures of business in each sector. However, using e-procurement tools to procure goods and services in both sectors can assist the relevant organisations to expedite the negotiation processes between the trading partners. The differences between the public and private sectors in e-procurement networks were identified (Sections 9.2.1, 9.2.3, 9.3.1, 9.3.2, 9.4.1, 9.4.2, 9.5.1 and 9.5.2).

By answering these sub-questions related to the roles of procurers and suppliers, the social issues that influence business negotiations in e-procurement, and the differences between business negotiations in the public and private sectors, the research has provided a broad understanding of business negotiations in e-procurement as conducted in public sector and private sector organisations. Based on the findings of this study, Figure 10.1 presents a conceptual framework for negotiation in e-procurement networks from the perspective of actor-network theory.
Figure 10.1: Conceptual framework of negotiation in the sourcing process in the e-procurement network

The conceptual framework construct in chapter two (section 2.10) showed that the interaction or communication in negotiation process in e-procurement environment occurred between procurer and supplier in business. However, business negotiation in the sourcing process in e-procurement, from the perspective of actor-network theory, represents a complex network that involves human and non-human actors, and the relationships between them. This finding may assist procurers and suppliers to negotiate effectively within the e-procurement environment. Organisations that have used e-procurement in procuring goods and services have realised the important influence of non-human actors on negotiation in e-procurement networks according to the findings of this study. The scope of the sourcing process is extended further to the influence of the human and non-human actors involved, rather than just the trading partners (human actors), from the perspective of ANT. The findings have indicated that negotiation in e-
procurement networks is a complex process that involves the contributions of human and non-human actors, and the ways that they relate to each other.

In ensuring negotiations in e-procurement success, the human actors which include procurers, suppliers and the procurement team (if applicable), and non-human actors plays an essential roles. The non-human actors involved include organisations that participate in the negotiation process, e-procurement tools used to expedite procurement and negotiation processes, the types of products that are procured, and the social issues that influence the negotiation in e-procurement. Each of these non-human actors is associated with each other in ensuring that negotiation between partners is a success. The social issues are not only factors that influence negotiation, but they are also part of the sourcing process used in e-procurement networks that will influence the negotiation process directly. Hence, the procuring organisations should ensure that social issues such as trust, culture, corporate social responsibility, relationships with trading partners become part of the sourcing strategy in negotiation in e-procurement. In this study, types of business and products procured become part of non-human actors besides the social issues identified to influence negotiation in e-procurement. While different types of products are being procured, different types of e-procurement tools will be used by the procuring organisations. Hence, by identifying and understanding the human and non-human actors that are involved in negotiations in e-procurement networks, the procuring organisations will be more alert to the issues that can influence negotiation in e-procurement environments. Therefore, by proposing a new model of business negotiation in the sourcing process in e-procurement, the research has answered the main question “How does negotiation operate in the sourcing process between partners in an e-procurement network?” through the perspectives of the actor-network theory.

10.2 Contributions to Knowledge

This thesis provides an understanding of how business negotiation in e-procurement operates in both the public and private sectors, by identifying the roles of the procurers,
suppliers and involves in negotiation, and the social issues that influence negotiation in e-procurement. This thesis offers several contributions to knowledge, both in the areas of practice and theory.

This research has implications for practitioners due to the identification of the social issues that influence negotiation in e-procurement. By understanding the social issues influence negotiation in e-procurement, Procurement Manager can make better decision making in procurement. Although using e-procurement system can assist procuring organizations to expedite the procurement process, via understanding the social issues that influence negotiation will enhanced and strengthen the value chain between trading partners. The value chain between partners can be enhanced and strengthen through the collaboration, the partnership, the supply chain and the network created in negotiation process in e-procurement environment. The collaboration and partnership between partners in e-procurement can be strengthen when the parties involved in negotiation process understand the social issues that will give impact to them while making decision. For instance, trust is an issue in e-procurement system because lack of face-to-face contact between trading partners. However, if trading partners understand that trust becomes an obstacle in negotiation in e-procurement environment, they will find a better solution to overcome the issue of trust. The trading partners can use the technology available such as video conference in procurement to overcome the face-to-face contact. Hence, the negotiators can expedite the negotiation process via e-procurement system. Thus, collaboration and partnership among trading partners can be strengthen.

Another implication of this study for practitioners is the identification of the factors influencing negotiation in the e-procurement network. Procurers and suppliers in either the public or private sectors can use awareness of these factors to overcome problems in the negotiation process. Furthermore, the identified factors can be used in the development of a strategy to expedite the procurement process. The result from this study also indicates the benefits of the use of e-procurement tools as negotiation devices for procurers and suppliers. Since using an e-procurement system will shift power from
suppliers to procurers (Wyld 2000), the findings from this study will assist procurers to use e-procurement tools as negotiation devices effectively. Another implication of this study is the identification of the network involved in negotiations in e-procurement. The network can be strengthening in e-procurement environment via internal network and external network build among negotiators involved. The internal network is focusing on the management level in procuring organisation whereas the external network is focusing on the other parties directly or indirectly involved in negotiation in e-procurement environment. For instance, procuring organisation can enhance the network with trading partners not only among profit organisations, but with non-profit organisations as well. By enhancing the network exist among business partners, the value chain among business partners can be strengthen and more networks can be built in the e-procurement network.

This research also makes a contribution to the body of knowledge through the use of actor-network theory as a lens for explaining the studied phenomenon. The theory can be used as a strategy to analyse and understand the issues that affect organisations. In this study, the concept of sourcing processes in negotiation in e-procurement has been extended to the involvement of both human and non-human actors from the perspective of ANT, in which social issues act as non-human actors that influence negotiation within the e-procurement network. Using the cross-case analysis, the research identified sourcing elements as part of the non-human actors in negotiation in the e-procurement network. The identified sourcing elements can be used to develop negotiation strategy elements in the public or private sector.

ANT was used in this study to explain the negotiation process in a new environment, that is, the electronic environment and in particular e-procurement. It is concluded that social interactions are required among negotiators even though the technology is available to use. This is due to the fact that the human and non-human actors are bonded together in a network. Therefore, social interactions are essential in the electronic environment to ensure the success of the negotiation process especially in the electronic environment.
10.3 Research Limitations

This research has been exploratory, and consequently it involved a limited number of respondents. Furthermore, this research focused only on the public and private sector organisations that used e-procurement as a method of procuring goods and services. Thus, a more in-depth focus could be achieved by including a greater number of respondents and exploring the associated industries in greater detail. The phenomenon was viewed only from the perspective of the actor-network theory. The output would be different if the phenomenon of negotiation in the sourcing process in e-procurement was investigated through the perspectives of different theories.

This research focused on the private and public sectors in general without focusing specifically on one industry. The output may have differed if the research was conducted at different industries. In addition, the participants in this study were procurers and suppliers for those particular organisations and the findings were restricted to the opinions expressed by those participants. Other actors were identified, but time limitations meant that only procurers and suppliers were interviewed.

10.4 Future Research

Future work may deepen the existing analysis regarding behavioural and managerial issues on both the procurer side and the supplier side. Future research can extend this research by focusing on the Australian Government’s use of e-procurement in procuring goods and services from the supplier perspectives. In addition, future research could usefully focus on a group within the private sector such as manufacturing as an industry involved in major procurement. The findings of this research could also be tested, and therefore strengthened, via surveys.

Furthermore, other research can extend this field of study to other locations in Australia, in order to discover new findings. This research can also be replicated in developing
countries that use e-procurement as a method of procuring goods, in order to consider the social issues that may influence negotiation in e-procurement within their particular settings. Due to different regulations in different countries, the social issues as influencing factors in negotiation in e-procurement can be expected to differ. Since the findings of this research were viewed through the perspective of ANT, other theories can be applied to the phenomenon which would lead to different discoveries. For example, research that used management theory to explain negotiation in the e-procurement network would lead to findings focusing more on strategic management elements.

10.5 Conclusion

Finally, to conclude, it is shown in this study that business negotiation in e-procurement is a complex process that involves human and non-human actors. Negotiation in e-procurement is essential in procuring goods and services, not only between trading partners but also between the other parties involved. Negotiators need to understand and be aware of the importance of the social issues that will influence negotiation in e-procurement. In addition, by understanding the influences of the social issues in e-procurement, the use of e-procurement can enhance collaboration, partnership and network among the stakeholders involved in business trading.
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Social Issues in Negotiation,
Procurement Manager 1 (PM1),
Multimedia University

<table>
<thead>
<tr>
<th>Category</th>
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<tr>
<td>Relationship with supplier</td>
<td><strong>Long-term relationship</strong></td>
</tr>
<tr>
<td></td>
<td>“We went to tender some time ago and we had selected preferred suppliers for print…they had also provided us with long-functioning devices.” (PG3)</td>
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<td></td>
<td><strong>Maintaining a relationship with the market or the marketplace</strong></td>
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<td></td>
<td>“Although the supplier is no longer with the business, you still want to maintain a good relationship with them because the way you treat the market will improve available service in the future. For instance, in terms of negotiating a better price.” (PG7)</td>
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<td><strong>Managing relationships</strong></td>
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<td></td>
<td>“There is somebody in this university that manages the face-to-face relationship with the current supplier, in order to ensure that the procurement process is running smoothly, and to identify if there is a need to change to a new supplier.” (PG7)</td>
</tr>
<tr>
<td></td>
<td><strong>Creating relationships or building relationships</strong></td>
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<td></td>
<td>“You need to create the relationship with, and to share information with suppliers.” (PG9)</td>
</tr>
<tr>
<td>Trust</td>
<td><strong>Trust in relationships</strong></td>
</tr>
<tr>
<td></td>
<td>“When the supplier promises he will provide the university with a good service, then through a specify contract the service can be delivered as promised.” (P12)</td>
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<td></td>
<td><strong>Trust in relationships</strong></td>
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<tr>
<td></td>
<td>“If you have a long-term relationship with the supplier, that means that trust has been established.” (P14)</td>
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<td></td>
<td><strong>Trust in relationships</strong></td>
</tr>
<tr>
<td></td>
<td>“You can set up a contract with suppliers, and they will promise security in the using electronic system. However...”</td>
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<tr>
<td>Skills of the negotiator</td>
<td>Communication skills</td>
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<tr>
<td>“Most of the skills in e-procurement are essential. You need to be able to build a relationship, need to be able to be friendly, and to create win-win outcomes. So if you are working with suppliers, you need to be able to negotiate according to your needs, which sometimes need to be harsh and tough, and sometimes needs to be done through diplomacy.” (PG14)</td>
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<tr>
<th>Corporate social responsibility</th>
<th>Corporate social responsibility</th>
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<tr>
<td>“Creating the scope of services for the goods procured requires the consideration of corporate social responsibility element. For instance, the paper that you order from overseas must meet the requirements and specifications prepared by the university, those that consist of environmental elements.” (PG17)</td>
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<tr>
<th>Culture</th>
<th>Cultural relationships</th>
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<tr>
<td>“Through my experience working in Asia, obviously, the relationship is important. You might build the relationship for two years before you can deal to create contract. If you are dealing with the Japanese, you have to go for dinner with the CEO and get to know each other, and then later you will do a deal with them.” (PG23)</td>
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“You can’t change culture. There have been thousands of years of culture, and the cultural background wouldn’t change because of the system.” (PG25)
Appendix B  Plain Language Statement for Face-to-Face Interviews

RMIT University
Business Portfolio
School of Business Information Technology

INVITATION TO PARTICIPATE IN A RESEARCH PROJECT

Project Title:
Negotiation in the Sourcing Process between Partners in an E-Procurement Network: Anthe Actor-network TheoryPerspective

Investigators:
- Noraizah Abu Bakar (School of Business Information Technology, PhD student)
- Dr.KonradPeszynski (Senior Supervisor: Coordinator Master Program, School of Business Information Technology, RMIT University, konrad.peszynski@rmit.edu.au, +(61 3) 9925 1654

Dear Participant

You are invited to participate in a research project being conducted through the RMIT University. This information sheet describes the project in straightforward language, or ‘plain English’. Please read this sheet carefully and be confident that you understand its contents before deciding to participate. If you have any questions about the project, please contact one of the investigators.

This research is being conducted by Noraizah Abu Bakar, a Business Information Systems PhD student enrolled in the School of Business Information Technology. The research is supervised by Dr.KonradPeszynski and Prof.Mohini Singh of the School of Business Information Technology, RMIT University. The aim of this research is to explore the negotiation process in an electronic procurement environment in public and private sectors in Australia. Negotiation is an essential business activity for establishing trade relationships between partners, and as the business environment becomes more dynamic in this global environment, negotiation between partners is required more often. Negotiation is the key decision-making approach used to reach consensus whenever partners cannot achieve goals. With advances in information technology (IT), information systems can facilitate effective solutions for negotiation between partners. This research has been identified as there is little existing research on the negotiation in the sourcing process between partners in e-procurement environment in Australia. This research project
has been approved by the RMIT Human Research Ethics Sub-Committee.

You have been approached to participate in this research project because you have been identified as having expertise in the negotiation process in an electronic procurement environment. Approximately, four officers involved in the negotiation process at your company will be invited to participate in this research. A further twelve officers from companies in both the private and public sector will also be invited to participate in this research.

The main data collection method for this research is via face-to-face interviews. The questions to be asked cover issues related to the role of buyers, suppliers and intermediaries in the negotiation process, the social factors that influence negotiation, and the importance of negotiation in an electronic procurement environment. Examples of questions include:

1. Could you please describe the procurement process within your organisation?
   - Have you adopted e-procurement?
   - If so, when?

2. Have there been any issues in implementing and establishing e-procurement within your organisation, and with your trading partners?

3. What is the current status of procurement in your organisation?
   - Why do you think this is the case?

You are invited to participate in a one-on-one interview that will take approximately 45-60 minutes.

Your responses to the questions will be tape recorded, with your permission, and you have the right to request that the taping cease at any time. All information gathered during the course of this research, including your responses, will be securely stored for a period of five years upon completion of the project in the School of Business Information Technology (BIT), RMIT University and can only be accessed by the researchers. All the data will be kept confidential even though the interviews involve small groups of select employees. After five years, the data will be destroyed. Results published in academic journals and conferences will not include information that can potentially identify either you or your organisation. The participants will not be named or identified in any outcomes of this research. The participants could be given the chance to review quotes that the researcher intends to publish in the thesis. Pseudonyms will be provided in order to maintain anonymity.

There are no foreseeable risks associated with your participation in this research project. Your participation will assist the researcher and the wider information systems community in understanding the factors that influence the negotiation process between partners in an electronic procurement environment. By identifying and understanding the
factors that influence the negotiation process, the value chain between partners will be improved in the electronic procurement network. Thus it is hoped that greater success with electronic procurement will be achieved.

Due to the nature of the data collection process, we are obtaining written consent from you. Please read this consent form carefully and be confident that you understand its contents before signing the consent form. If you have any questions about the project please feel free to contact one of the investigators. A copy of signed consent form will be given to you for your records.

Your participation in this research is voluntary. As a participant, you have the right to withdraw your participation at any time, have any unprocessed data withdrawn and destroyed, provided that it can be reliably identified and provided that so doing does not increase your risk; and have any questions answered at any time. Any information that you provide can be disclosed only if (1) it is to protect you or others from harm, (2) a court order is produced, or (3) you provide researchers with written permission.

If you have any questions regarding this research, please do not hesitate to contact the researcher, Noraisah Abu Bakar, 04-433805342, Email: noraizah.abubakar@student.rmit.edu.au or the supervisors listed above.

Thank you for your participation in this research.

Yours Sincerely,

Noraisah Abu Bakar
Appendix C  Draft Face-to-Face Interview Questions

RMIT University
Business Portfolio
School of Business Information Technology and Logistics

Definition of E-Procurement - “The process of utilising Web-based technologies to support the identification, evaluation, negotiation and configuration of optimal groupings of trading partners into the supply chain network, which can then respond to changing market demands with greater efficiency.” (Minahan 2001)

Definition of negotiation – “Negotiation is a process of joint decision-making in which people with different preferred outcomes interact in order to resolve their differences, and negotiation becomes a key decision-making approach used to reach the consensus whenever the partners cannot achieve their goals”(Thompson 2000)

Interview questions

1. The profile of the interviewee
   - Could you please briefly outline the background of the relationship with supplier and how that came about?
   - What is your position in your organisation?
   - How long have you been in your current position?
   - What are your job tasks?

2. The E-procurement Process
   2.1 Could you please describe the procurement process within your organisation?
   - Have you adopted e-procurement?
   - If so, when?

   2.2 Have there been any issues in implementing and establishing e-procurement within your organisation, and with your trading partners?

   2.3 What is the current status of procurement in your organisation?
   - Why do you think this is the case?

2.4 What was the goal of introducing e-procurement?

3. The negotiation process in the e-procurement environment
   3.1 Is negotiation important in e-procurement?
   - Why do you think this is the case?
• What aspects are important?
• Can you give examples of these aspects, and what impact they might have had?
• Why?

3.2 What is the role of negotiation in the e-procurement environment in your organisation?
• Please provide examples, and a brief description of their impact?

3.3 Who are the people involved in the negotiation process for e-procurement in your organisation?
• What are the roles of the people that you have mentioned?

3.4 What are the key influencing factors occurring in the negotiation process for e-procurement? Examples could be trust, collaboration, culture or partnership?
• Can you please expand on what you mean by each of the key influencing factors you have listed?
• Why do you believe those key influencing factors are important?
• To what degree are those factors important? Can you rank them?

3.5 Does Corporate Social Responsibility impact the negotiation process in the e-procurement environment? Can you provide examples within the negotiation process and describe how this has worked?

3.6 From your point of view, does effective negotiation lead to success in e-procurement?
• Why do you believe that?
• Did you achieve all of your goals in e-procurement, and can you please elaborate?
• How does effective negotiation lead to success in e-procurement?
• Are there any other factors that impact the success of negotiation in the e-procurement environment?
<table>
<thead>
<tr>
<th>Category</th>
<th>Interviewee</th>
</tr>
</thead>
</table>
| Relationship with supplier                    | **Long-term relationship**  
“We went to tender some time ago and we had selected preferred suppliers for print...they had also provided us with long-functioning devices.”  (PG3) |
| Maintaining a relationship with the market or the marketplace | **“Although the supplier is no longer with the business, you still want to maintain a good relationship with them because the way you treat the market will improve available service in the future. For instance, in terms of negotiating a better price.” (PG7) |
Skills of the
negotiator

Corporate social
responsibility

Culture

“Most of the skills in e-procurement are
essential.You need to be able to build a
relationship, need to be able to be
friendly, and to create win-win
outcomes.So if you are working with
suppliers, you need to be able to
negotiate according to your needs,
which sometimes need to be harsh and
tough, and sometimes needs to be done
through diplomacy”(PG14)

Communication skills

“Creating the scope of services for the
goods procured requires the
consideration of corporate social
responsibility element.For instance, the
paper that you order from overseas must
meet the requirements and specifications
prepared by the university, those that
consist of environmental
elements.”(PG17)

Corporate social
responsibility

“Through my experience working in
Asia, obviously, the relationship is
important. You might build the
relationship for two years before you
can deal to create contract.If you are
dealing with the Japanese, you have to
go for dinner with the CEO and get to
know each other, and then later you will
do a deal with them.”(PG23)

Cultural relationships

“You can’t change culture.There have
been thousands of years of culture, and
the cultural background wouldn’t
change because of the system.”(PG25)

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**Appendix B**

Plain Language Statement for Face-to-Face Interviews

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**RMIT University**

Business Portfolio

School of Business Information Technology

**INVITATION TO PARTICIPATE IN A RESEARCH PROJECT**

**Project Title:**

Negotiation in the Sourcing Process between Partners in an E-Procurement Network: An the Actor-network Theory Perspective

**Investigators:**

- Noraizah Abu Bakar (School of Business Information Technology, PhD student)
- Dr. Konrad Peszynski (Senior Supervisor: Coordinator Master Program, School of Business Information Technology, RMIT University, konrad.peszynski@rmit.edu.au, +(61 3) 9925 1654)

Dear Participant

You are invited to participate in a research project being conducted through the RMIT University. This information sheet describes the project in straightforward language, or ‘plain English’. Please read this sheet carefully and be confident that you understand its contents before deciding to participate. If you have any questions about the project, please contact one of the investigators.

This research is being conducted by Noraizah Abu Bakar, a Business Information Systems PhD student enrolled in the School of Business Information Technology. The research is supervised by Dr. Konrad Peszynski and Prof. Mohini Singh of the School of Business Information Technology, RMIT University. The aim of this research is to explore the negotiation process in an electronic procurement environment in public and private sectors in Australia. Negotiation is an essential business activity for establishing trade relationships between partners, and as the business environment becomes more dynamic in this global environment, negotiation between partners is required more often. Negotiation is the key decision-making approach used to reach consensus whenever
partners cannot achieve goals. With advances in information technology (IT), information systems can facilitate effective solutions for negotiation between partners. This research has been identified as there is little existing research on the negotiation in the sourcing process between partners in e-procurement environment in Australia. This research project has been approved by the RMIT Human Research Ethics Sub-Committee.

You have been approached to participate in this research project because you have been identified as having expertise in the negotiation process in an electronic procurement environment. Approximately, four officers involved in the negotiation process at your company will be invited to participate in this research. A further twelve officers from companies in both the private and public sector will also be invited to participate in this research.

The main data collection method for this research is via face-to-face interviews. The questions to be asked cover issues related to the role of buyers, suppliers and intermediaries in the negotiation process, the social factors that influence negotiation, and the importance of negotiation in an electronic procurement environment. Examples of questions include:

1. Could you please describe the procurement process within your organisation?
   - Have you adopted e-procurement?
   - If so, when?

2. Have there been any issues in implementing and establishing e-procurement within your organisation, and with your trading partners?

3. What is the current status of procurement in your organisation?
   - Why do you think this is the case?

You are invited to participate in a one-on-one interview that will take approximately 45-60 minutes.

Your responses to the questions will be tape recorded, with your permission, and you have the right to request that the taping cease at any time. All information gathered during the course of this research, including your responses, will be securely stored for a period of five years upon completion of the project in the School of Business Information Technology (BIT), RMIT University and can only be accessed by the researchers. All the data will be kept confidential even though the interviews involve small groups of select employees. After five years, the data will be destroyed. Results published in academic journals and conferences will not include information that can potentially identify either you or your organisation. The participants will not be named or identified in any outcomes of this research. The participants could be given the chance to review quotes that the researcher intends to publish in the thesis. Pseudonyms will be provided in order to maintain anonymity.
There are no foreseeable risks associated with your participation in this research project. Your participation will assist the researcher and the wider information systems community in understanding the factors that influence the negotiation process between partners in an electronic procurement environment. By identifying and understanding the factors that influence the negotiation process, the value chain between partners will be improved in the electronic procurement network. Thus it is hoped that greater success with electronic procurement will be achieved.

Due to the nature of the data collection process, we are obtaining written consent from you. Please read this consent form carefully and be confident that you understand its contents before signing the consent form. If you have any questions about the project please feel free to contact one of the investigators. A copy of signed consent form will be given to you for your records.

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Noraizah Abu Bakar
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   - Are there any other factors that impact the success of negotiation in the e-procurement environment?