CULTURAL RISKS IN CONSTRUCTION PROCUREMENT

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ABSTRACT

Risk and risk management have become an increasingly important consideration worldwide, particularly in the procurement of construction projects. Among a wide array of risk types, those arising from, or impacting upon, the cultural aspects of construction deserve attention.

The nature of culture and its relationship to construction performance is explored. A brief overview of risk, culture, construction, and projects is used as a basis for developing a risk mapping model for identifying cultural risks in the context of a stakeholder in a construction project.

Keywords: Cultural risks; risk management; construction projects, stakeholders.

INTRODUCTION

Cultural influences on construction processes, and upon construction and project management, have been traditionally regarded as being the concern of companies operating in foreign countries – the bridge being built in Asia by a British firm, or the power generation facility and electricity distribution network under construction by a French consortium in Africa. Language barriers, differences in national customs, and ethical considerations, have been a major focus of cultural attention. However, the globalisation of construction firms has also required the intra-organisational integration of employees with diverse backgrounds and cultures. The increasingly polyglot multi-cultural character of many nations; the acceptance that culture has to be understood as more than just language and national custom; and the issue of ethics, are also good reasons for re-visiting the field of cultural risk in construction. Cultural risk has been something of a “Cinderella” in risk management, just one category amongst an extensive typology of risk that includes far more important step-sisters such as financial, political, legal and technical risk.

The aim of this paper is to integrate related concepts of risk, risk management, projects and culture in construction; to propose a conceptual “construction activity” cultural risk identification model that maps these risks. The topics covered include risk, construction, projects, stakeholder organisations, culture and risk management.

RISK

Risk can be described as: “the chance that an adverse event will take place during a stated period of time” (Royal Society, 1991). This definition adopts the negative “threat” view of risk. Arguments for a dual concept of risk have theoretical merit (i.e. that risk can be positive or
negative, and that opportunity is the converse of threat), but society rarely treats risk as an equal two-sided coin. The more dominant negative view is deliberately chosen here on the grounds of brevity and because it reflects what most people think. ‘Opportunity in cultural risks for construction procurement’ would deservedly form a separate topic in its own right.

Risk is a social construct: it arises out of an individual’s (and hence a society’s) view of what constitutes risk (Edwards and Bowen, 2004). Different societies are likely to hold different views, and changes occurring in a particular society may bring about change in its views of particular risks. At the corporate level, culture is normally deeply embedded and it influences the decisions, behaviour and perceptions of employees (O’Reilly and Charman, 1996). Therefore, even the perceptions of cultural risks in construction are likely to be culturally influenced and subject to change over time. The dynamic nature of perceptions of cultural risk has itself been identified as a source of risk: “culture shift risk” (Raval and Subramanian, 2000).

Risk is contextual (AS/NZS 4360, 1999): it arises in the context of situations involving people as individuals or as organisations. Typical situations include the achievement of objectives, undertaking activities, or making commitments. Risks arise through the uncertainties associated with the decision-making that accompanies each of these.

**CONSTRUCTION**

Construction is the industry-based agglomeration of activities and resources needed to build, maintain, repair, restore, adapt or demolish the physical infrastructure known as the built environment. In its widest context, the construction industry is recognised, for statistical measurement purposes, as a significant sector contributor to the national economy of a country. At its narrowest, construction might comprise a small part of any one of a large number of trade or craft based processes (e.g. concreting, bricklaying, carpentry) required to produce a component of a building on a particular site.

The construction industry is largely project-driven, and each project may involve many participants (stakeholders). The globalisation of construction activity has brought with it a need to integrate employees who have been drawn from a range of ethnic and cultural backgrounds. This has also encouraged companies to explore the relationship between organisational culture and performance (McShane and Travaglione, 2003).

**PROJECTS**

Projects comprise the necessary tasks, technologies, and resources brought together through some form of organisational framework to create a particular facility or to establish the framework for delivering a service. Their uniqueness, and the inclusion of time frame objectives, are the dominant characteristics which distinguish projects from other undertakings such as manufacturing processes or the ongoing delivery of services. For most projects, the time frame is measured by the time needed to procure the project, i.e. to bring it to a state of operational readiness. Some projects, however, also include operational and disposal environments within their time purview. The Melbourne Formula 1 Grand Prix is a good example of such a project, requiring the construction, operation and subsequent removal of facilities in a local park temporarily given over each year to the event. A conceptual view of projects is shown in Figure 1.

Since decision-making occurs in each constituent part, and since almost every decision is framed by the uncertainty associated with dealing with future events, risk is ordinarily inherent in all projects. Project decision-making takes place in the context of the project stakeholders, and thus involves stakeholder organisations.
STAKEHOLDER ORGANISATIONS

Freeman (1984:46) defines a stakeholder as: ‘any individual or group who can affect or is affected by actions, decisions, policies, practices, or goals of the organization’. Stakeholders are generally classified as primary or secondary. According to Cleland (1998); ‘Primary stakeholders have a contractual or legal obligation to the project team, they also have the responsibility and authority to manage and commit resources according to schedule, cost, and technical performance objectives’. Examples of such primary stakeholders would include: the client, the project team, the consultant organisations, finance organisations, contractors, and sub-contractors. Secondary stakeholders typically comprise all other interested groups, such as the government, local authorities, media, consumers, competitors, public and society.

There has been a growing trend toward recognizing a greater participation of society with an interest or ‘stake’ in projects and organisations. As an organisation’s success can be affected negatively or positively by relationships with its stakeholders, the business requires careful management attention in considering the demands of its stakeholders (Post et al., 1996).

In a project management context, primary stakeholders are seen as participants who are directly involved in the project or have contractual agreements. These primary stakeholders include clients, contractors, suppliers, investors and designers. In essence, these are the members of the project management team and can be thought of as ‘internal primary stakeholders’. The situation is complicated as these internal primary stakeholders themselves belong to stakeholder groups in the form of the parent organisations to which they belong. Consequently, the internal primary stakeholders may themselves be thought of as comprising direct and indirect internal primary stakeholders.

In a project context, the secondary stakeholders are individuals, groups and organizations who are not directly related to the core business of either the project team or the organisations to which the project team members belong. These secondary or external stakeholder groups include government, local authority, local communities, and consumer groups (Preece et al., 1998). The secondary stakeholders can exert a significant influence on the development of the project; particularly government which can exert influence through the use of legislation. Since construction projects invariably have some sort of impact on the surrounding environment,

Figure 1. A conceptual anatomy of projects (Source: Edwards & Bowen, 2004).
construction project teams have often had an adversarial relationship with environmental groups and local communities. They can take action in the form of active lobbying, or more direct action targeted at the construction process in an attempt to change the plans or construction activities. Figure 2 provides some indication of the complex relationships that exist between internal stakeholders in the context of projects. The complexity is exacerbated when one considers the potential role and influence of stakeholders external to the project per se (e.g., lobby groups).

Typically, organisation/stakeholder relations can change over time. Generally a realignment could occur if: institutional support changes; contingent factors emerge; ideas held by stakeholders and/or organisations change; or where material interests on either side change. Friedman and Miles (2002) provide an example of this in their discussion of the realignment of the Greenpeace movement from being antagonistic and favouring violent confrontation, to a position of providing solution-based approaches to problems and forging corporate alliances with their former opposition.

**Figure 2. A stakeholder perspective of project risk management**

(Source: Edwards & Bowen, 2004).

**ORGANISATIONAL CULTURE**

Organisational culture is the pattern of assumptions, values and beliefs which are accepted and influence the way an organisation goes about its business. McShane and Travaglione (2003) suggest that organisational culture shapes the way in which an organisation interacts with its environment, and the actions chosen to be implemented. Assumptions, beliefs and values are often difficult to observe as they are learnt and unconsciously followed by employees.

Assumptions are normally seen as the shared models, views or theories that guide behaviour and perceptions. Obviously assumptions within an organisation inform its views on risk management, and are therefore critical to an improved understanding of cultural risk. Organisational beliefs and values are perceptions of reality, with those of a long lasting nature more likely to be seen as values (McShane and Travaglione 2003). An organisation’s cultural values include those which are being sought by companies (espoused values) and those which are currently in use (enacted values). It should be noted that enacted values tend to guide individual decisions and actions, and therefore represent an organisation’s culture and its approach to risk.
Organisational culture is shaped by corporate experiences. These experiences are also linked to the impact of sub cultures within an organisation. The dominant culture of an organisation is built from a series of sub cultures which reinforce the shared values and beliefs of the organisation; however these subcultures can also oppose an organisation’s core values. The subcultures, particularly countercultures, can maintain standards of performance and ethical behaviour, while realigning corporate behaviour with the needs of all stakeholders. In this way the company is able to adapt to changing environmental conditions, and maintain relevance for its customers. Table 1 provides observable examples of organisational culture in the construction industry. The list is not exhaustive. Seeking to identify cultural risk factors in this way may be somewhat patchy, since it assumes unique cultures in particular parts of organisations. A systems view might be more suitable.

Table 1. Examples of organisational culture in the construction industry.

<table>
<thead>
<tr>
<th>Aspect of organisational culture</th>
<th>Construction industry examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance, power distribution and leadership styles</td>
<td>• Italian patriarchal “construction family” approach versus ‘IBM’ management models or bureaucratic approaches.</td>
</tr>
<tr>
<td>Human resource factors</td>
<td>• Language, speech, idioms. An example of the latter is “reo” or “rebar” for steel bar reinforcement. The same professional grouping sometimes assign different meanings to the same cost forecasting terminology (Bowen, 1993).</td>
</tr>
<tr>
<td>Business practices.</td>
<td>• Appearance; formal, casual, or uniform dress expected.</td>
</tr>
<tr>
<td></td>
<td>• Gender biases; e.g. male/female roles in African Zulu “wattle and daub” house construction.</td>
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<tr>
<td></td>
<td>• Employment practices such as the casual hiring of (often illegal immigrant) construction labourers on a day-to-day basis in California; compared with unionised superannuation-based employment in Australia.</td>
</tr>
<tr>
<td>Environmental values affecting waste management policies or site pollution practices.</td>
<td>• Operational style (teams, work crews, individuals).</td>
</tr>
<tr>
<td></td>
<td>• Habits/customs. In Victoria, Australia, VicRoads’ (the state public roads authority) rurally-based site management staff may finish work at 5.00pm on country projects; but city-based staff may work until 7.00pm or later on city/urban projects.</td>
</tr>
<tr>
<td></td>
<td>• Expectations of discount offers on professional fees for private sector projects SE Asia.</td>
</tr>
<tr>
<td></td>
<td>• Illegal dumping of landfill, and fly-tipping of toxic construction waste.</td>
</tr>
<tr>
<td>OHS policies and practices.</td>
<td>• The proportion of project budget allocated for OHS;</td>
</tr>
<tr>
<td></td>
<td>• Worker reluctance to wear safety equipment; or reluctance to report safety breaches;</td>
</tr>
<tr>
<td></td>
<td>• Lack of managerial commitment to OHS because of poor enforcement by the authorities and because OHS is not always perceived by organisations as cost effective;</td>
</tr>
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</table>
Negative / positive systemic cultures
McLucas (2003), citing Australian examples such as the Townsville Black Hawk army helicopter collision; the Royal Canberra Hospital implosion where a 12-year old spectator was killed by flying debris; and the RAAF enquiry into toxic exposure in aircraft maintenance, points to pre-existing systemic situations as contributory factors to disasters. In particular, he identifies cultures of denial in organisations - a reluctance to concede beforehand that systemic problems exist.

This systemic view can be enlarged to embrace paired negative/positive concepts of organisation cultures across an organisational system. For example, an organisation might exhibit cultures of:

- Denial rather than acceptance
- Inflexibility rather than resilience
- Distrust rather than trust.
- Executive distance rather than operational closeness.
- Reducible simplicity rather than dynamic complexity.
- Legal rather than ethical compliance.
- Seeking single solutions rather than understanding multi-factorial implications.
- Blame rather than learning.
- Knowledge as power rather than learning as growth.
- Casualness is “cool” rather than alertness to saving lives.
- “Near enough is good enough” rather than “Right first time – every time”.
- Secrecy rather than openness.

The last point serves as a reminder that such cultures might be overtly or covertly exhibited in an organisation. They can also appear as sub-cultures within larger organisations, and therefore conflict with an overall corporate culture. The systems approach suggests that regarding culture as a separate category of risk might be inappropriate; that in fact all human systems risks may be culturally shaped.

STAKEHOLDER RISKS

Synthesising the concepts presented so far, a working definition of cultural risks in construction procurement might be:

“The likelihood of occurrence and consequences of events arising from the systemic influence of ideas, beliefs, values, experience and knowledge upon the ways in which project stakeholder organisations go about their construction project activities.”

While this definition does not distinguish between positive and negative consequences, the latter view (as noted earlier) is adopted for this paper.

Projects per se do not themselves possess risks; rather, risks should be thought of as inherent in stakeholders, as risks take form and are given substance in the perceptions of stakeholders (internal and external). Perceptions in turn are influenced by culture – whether at an individual level or at an organisational level. This culture exerts influence, to a greater or lesser degree, on the project itself through the participation in the project of individuals drawn from stakeholder organisations. Such participation may be direct (e.g., the client, professional consultants, or the contractor) or indirect (e.g., suppliers, government agencies, or other interest groups). All influence the project in some way, and hence all contribute to project risk either directly or indirectly.

A further clarification is necessary. Many attempts have been made to classify risks, but a universal risk classification is still elusive. Most typologies to date have been uniquely context specific; e.g. for particular fields of knowledge such as nuclear physics or medicine, or for
particular industries such as construction, petro-chemical, finance, or ICT. While this may not be problematic within a particular application context (i.e. “scientists all speak the same language”), it creates the potential for misunderstandings where risk communication has to cross system, project or organisational boundaries. Further potential for confusion arises, as in some instances a risk event source has been adopted; while at other times risks have been classified by the nature of the consequences of the risk events. Sometimes both approaches are used together for projects. For example, in a construction project context, it is not unusual to find weather risks (source events) identified, as well as cost- and time-overrun risks. Cost and time overrun are actually the consequences of prior risk events.

Evidence indicates that similar confusion occurs with cultural risks. Raval and Subramanian (2000) consider cultural risks as potential conflicts (events) arising from cultural differences encountered by multinational organisations operating in different countries. Harper and Harris (1998), on the other hand, identify and classify cultural risks in terms of their potential impact (consequences) upon the Native American Indian cultures of North America.

Figure 3 shows a conceptual view of the ways in which cultural risks can arise in the context of construction projects.

Figure 3. Contexts for culturally-shaped stakeholder risks in project management.

RISK MANAGEMENT

Bowden et al. (2001) view risk management as a “continually reviewable cycle”. Modifying the approach of AS/NZS 4360 (1999), the steps in a risk management cycle would include establishing the context; identifying risks; analysing risks; responding to risks; monitoring and controlling risks; and capturing project risk knowledge. The last stage would be implemented at two levels: (a) in a risk register as the stakeholder’s documentary record of risk management system for an individual project; and (b) an organisational database of stakeholder’s project-related risk experience and knowledge. For the purposes of this paper, only the risk identification process is considered here.
An effective culturally-focussed risk identification technique must, for each stakeholder organisation, consider the objectives and elements of a project; and the decision making associated with the tasks, technologies and organisation associated with that project. Essentially this means posing questions such as:

Q. What decisions are involved here?
Q. What overt cultural factors might be involved?
Q. What covert cultural factors might be involved?
Q. How could that factor threaten a successful outcome to that decision?

These questions can be addressed via a matrix populated through a facilitated brainstorming approach. Table 2 illustrates an incomplete example of a matrix for a hypothetical floor casting cycle example.

Table 2. Project risk identification matrix.

<table>
<thead>
<tr>
<th>CONCRETE FLOOR CASTING CYCLE</th>
<th>Component</th>
<th>Governance &amp; Power</th>
<th>Human Resources</th>
<th>Operational practices</th>
<th>Business practices</th>
<th>Environmental values</th>
<th>OHS practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set out &amp; erect formwork</td>
<td>Site management, HQ management.</td>
<td>R1, R2, R3, R4, R5</td>
<td>R6</td>
<td>R7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rough in services</td>
<td>Prop, timber, deck plates, fixings.</td>
<td>R8</td>
<td>R9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position blockouts</td>
<td>Cranage, power tools.</td>
<td>R8</td>
<td>R9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fix reinforcement</td>
<td>Prop, timber, deck plates, fixings.</td>
<td>R8</td>
<td>R9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pour concrete</td>
<td>Cranage, power tools.</td>
<td>R8</td>
<td>R9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cure</td>
<td>Prop, timber, deck plates, fixings.</td>
<td>R8</td>
<td>R9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strip formwork</td>
<td>Prop, timber, deck plates, fixings.</td>
<td>R8</td>
<td>R9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Cells in the matrix are populated by coded symbols for each risk. Amplified risk statements (describing context, chance, event, time, and consequences) should be listed and documented separately. For example, “RISK R6” in the matrix of Table 2 might be more fully stated as: “there is a chance that the formwork might collapse during the floor casting cycle, leading to injury, damage and delay.” The R6 risk event itself might be culturally shaped by a “near enough is good enough” negative systemic culture existing among the formworkers and site supervisors.

The remaining stages of systematic risk management are not further discussed here, but it is also possible to incorporate these into a meta-risk management matrix system as outlined in AS/NZS 4360 (1999) and expanded by Edwards and Bowen (2004).

For a more comprehensive risk identification model, additional vertical columns could incorporate the generic risk categories (natural; social; political; legal, technical; economic; financial; health and managerial) as proposed by Edwards and Bowen (2004). Additional rows would accommodate other construction activities (including professional design and supervision if appropriate) with their related resource, technology and organisational requirements. However, a matrix enlarged in this way, to represent the myriad of construction activities for a project, would be unwieldy in practice and would almost certainly intrude unnecessarily on other stakeholders’ risk management territory. A more practicable approach would be to develop multiple matrices, each focussed on a particular construction context for a project. This would also permit several risk identification workshops to proceed in parallel, and save time.

The risk “map” produced in terms of Table 2 permits a stakeholder to gain a strategic view of its cultural risks for a project, revealing clusters of risks shaped by particular cultural factors. This should help the stakeholder organisation to develop strategic responses to cultural issues.

The risk identification model presented is aimed at intra-organisational risk management. At a less detailed level it could also be implemented, in the early stages of a project, at an inter-stakeholder level.

CONCLUSIONS

This paper has proposed a risk mapping model for identifying cultural risks in the context of a stakeholder in a construction project. The model is based on an acknowledgement that projects per se do not themselves possess risks. Rather, risks are inherent in stakeholders, as risks take form and are given substance in the perceptions of stakeholders (internal and external). Perceptions in turn are influenced by culture – whether at an individual level or at an organisational level. This culture exerts influence on the project itself through the participation (directly or indirectly) in the project of individuals drawn from stakeholder organisations. As all influence the project in some way, all contribute to project risk either directly or indirectly.

Since risk perceptions may change over time, an effective risk identification technique must, for each stakeholder organisation, consider the objectives and elements of a project; and the decision making associated with the tasks, technologies and organisation associated with that project. Project teams must also be prepared to continually reapply the risk mapping process as risk properties are dynamic and environmental conditions are subject to change.

The model presented here provides a methodology for the mapping of risks within a conceptual “construction activity” cultural risk identification model. The risk “map” permits a stakeholder to gain a strategic view of clusters of risks shaped by particular cultural factors. This should help the stakeholder organisation to develop strategic responses to cultural issues. There are clear implications for organisations which operate across geographic and ethnic borders.
REFERENCES


