EXPLORING IT GOVERNANCE ARRANGEMENTS IN PRACTICE: THE CASE OF A UTILITY ORGANISATION IN THAILAND

Chutimon Satidularn, Faculty of IT, Monash University, Caulfield East, Victoria, 3145, chutimon.satidularn@monash.edu
Kerry Tanner, Faculty of IT, Monash University, Caulfield East, Victoria, 3145, kerry.tanner@monash.edu
Carla L. Wilkin, Department of Accounting and Finance, Monash University, Caulfield East, Victoria, 3145, carla.wilkin@monash.edu

Abstract

Much attention is being directed towards IT to facilitate better management of information and enhance decision-making as a result of factors like: expenditure on information technology (IT); the imposition of legislation and implications of standards calling for timely, accurate and comprehensive reporting; and the need to respond to the increasing pace of change in organisations. Consequently IT governance (ITG), as an integral part of corporate governance, has become a focal point of corporate strategy. Despite growth in the number of research projects concerned with aspects of ITG, few have focused on the practical implementation of ITG in real-life contexts, particularly in Asia and Thailand. The objective of this paper is to investigate how a state-owned organisation in Thailand had adopted and implemented ITG and the factors that contributed to or impacted on the effectiveness of this. Findings deepen understanding about how cultural differences impact ITG implementation, which may enrich theoretical models about ITG and their associated implementation strategies. Further, our research highlights critical success factors related to ITG like assessment practices; and details understandings that other case organisations may apply to their advantage.

Keywords: IT Governance, Case Study, Thailand.
1 INTRODUCTION

Due to accounting scandals, which resulted in the passage of the Sarbanes-Oxley Act (SOX) in 2002 by the US Government, companies are now required to reassess their corporate governance to ensure proper accountability to corporate shareholders and stakeholders (Bloem et al., 2006; Brown & Grant, 2005). SOX (and its global legislative equivalents) require an independent external auditor to conduct attestation to management’s assertion regarding the effectiveness of internal controls over financial reporting and disclosure (Anand, 2006). Given organisations use computerised information systems (IS) to capture accounting data, process that data and use it to produce financial reports, these internal controls also include information technology (IT) related controls (Turner & Weickgenannt, 2009). As corporate governance requires a sound internal control environment at both the transactional and strategic level, predictably SOX has changed the nature of corporate governance and increased the challenges faced by IS professionals (Damianides, 2005).

IT governance (ITG), an integral part of corporate governance, has recently become a focal point in every business (Willson & Pollard, 2009). In fact, a global survey conducted by the Information Systems Audit and Control Association (ISACA) revealed “enterprise-based IT management and IT governance” as top business and technology issues (ISACA, 2008). This is unsurprising given ITG may have a significant impact on the benefits obtained from IT investment (Damianides, 2005). Further, IT plays an important role in supporting the business operations of organisations, with widespread recognition that providing the right information, at the right time, to the right person is a constant challenge. Failure to fulfil this objective can lead to substantial financial loss (Cockcroft, 2002; Turner & Weickgenannt, 2009). Consequently, much attention is being directed at IT to facilitate better management of information, and in turn decision making at both operational and strategic levels. However, given the expenditures (in both monetary and human terms) involved in implementing IT; the imposition of legislation and the implications of standards which call for timely, accurate and comprehensive reporting; and the need to respond to the increasing pace of change in organisations, IT investment needs to be appropriately managed to mitigate strategic risk. ITG, a management strategy adopted by organisations to promote effective and efficient use of IT resources and equally to ensure proper IT accountability, has received calls for special attention from both academics and IS practitioners (Van Grembergen et al., 2004).

As a result there has been growth in the number of research projects related to ITG structures, processes, and relational mechanisms. However, less research has focussed on the practical implementation of ITG in a real-life context (Willson & Pollard, 2009), with much of this research conducted in developed countries (Nfuka & Rusu, 2010) and little in Asia, especially in Thailand. Therefore, the purpose of this study was to address this gap by exploring how a state-owned organisation in Thailand had implemented ITG. In addressing this, the research questions were:

RQ1. How has a complex utility organisation in Thailand adopted and implemented ITG?
RQ2. What factors contributed to or impacted on the effectiveness of the implementation of ITG at this organisation?

Through this study we sought to gain a deeper understanding of the current state of ITG in one industry sector in Thailand. In doing so the research helps to provide insight into how cultural factors (i.e. national culture and organisational culture) affects ITG implementation in different countries.

The paper is organised as follows. Section 2 presents the theoretical background related to ITG. Section 3 details the research methodology and case study, whilst Section 4 reports on the case study findings. Section 5 presents some discussion of the findings, and outlines the limitations of the case study, together with opportunities for future research, while Section 6 presents our concluding comments.

2 LITERATURE REVIEW

Burgeoning interest in ITG draws on earlier literature related to: organisational structures and decision making styles (centralised, decentralised, hybrid) (e.g. Brown & Grant, 2005; Mintzberg 1983); IT/IS management (e.g. Earl, 1989; Henderson & Venkatraman, 1993); strategic information systems
planning (e.g. Earl, 1993; Gartlan & Shanks, 2007; Lederer & Salmela, 1996; Lederer & Sethi, 1991; Segars & Grover, 1998; Ward & Peppard, 2002); IT and the productivity paradox (e.g. Brynjolfsson & Hitt, 1998); government regulations (e.g. SOX and Basel II); and globalisation. Whilst the definition of and emphases on ITG vary in the literature, these perspectives broadly bifurcate into either higher-level conceptual frameworks that emphasise strategic, structural, decision-making and behavioural aspects of ITG (e.g. Weill & Ross, 2004, 2005; Broadbent, 2002; Broadbent & Kitsis, 2005) or a more pragmatic/operational focus that stresses the control and risk aspects of ITG (e.g. ITGI, 2011; Peterson, 2004; Van Grembergen et al., 2004; Van Grembergen & De Haes, 2008). The latter tends to provide more detailed guidelines, best practice standards and tools for practitioners to implement ITG including the well known Control Objectives for Information and related Technology (CoBIT), Val IT (ITGI, 2011), the Information Technology Infrastructure Library (ITIL) (ITIL, 2011), the IT Service Management (ITSM) Framework (ITSM, 2011), the IT Balanced Scorecard (Van Grembergen & De Haes, 2005), and various ISO/IEC standards like ISO/IEC38500.

Differences between these two foci reflect the emphasis taken rather than any fundamental disagreement concerning the major objectives, components or focus areas of ITG. For instance, in Weill and Ross’s (2004) framework, ITG mechanisms comprise decision-making structures, alignment processes and communication approaches; while Van Grembergen et al. (2004) refer to ITG structures, processes and relational mechanisms. Conversely, the IT Governance Institute’s (ITGI) (2003) five focus areas of ITG—strategic alignment of business and IT; managing risk in IT systems; managing IT resources; and measuring performance of IT systems—are widely accepted by both sides. Given our focus on the implementation of ITG, we draw on the second group of frameworks that have a more pragmatic and operational focus, particularly the definitions, frameworks and research proposed by ITGI and the structures, processes and relational mechanisms of Van Grembergen et al. (2004). Herein the ITGI (2003) defines ITG as "the responsibility of executives on the board of directors, and consists of the leadership, organisational structures and processes that ensure that the enterprise's IT sustains and extends the organisation's strategy and objectives." Similarly, the structures of Van Grembergen et al. (2004) focus on factors like deploying appropriate structural mechanisms to ensure effective alignment of business and technology; processes involve planning, implementation and monitoring; and relational mechanisms include critical success factors like commitment, involvement and effective communication of senior executives.

Prior research has identified a wide range of factors that influence ITG design. Contingency theorists (e.g. Mintzberg, 1983) have a long history of isolating factors that impact on organisational structures and design, like organisational age/history/vision, organisational size, and conditions of the organisational/industry environment (stability/dynamism, complexity/simplicity, diversity, hostility/munificence). ITG theorists have extended this research in terms of the factors that influence ITG structures and design. For instance, in their study of 256 firms across 23 countries, Weill and Ross (2004) identified several major factors that explained variations in ITG design including: strategic and performance goals; organisational structure; experience with governance; size and diversity; and industry or regional differences. Other studies present conflicting results in terms of the relative influence of different factors (which due to space constraints are not detailed here). However, one of the few sources to relate IT governance to organisational culture is Kingsford et al. (2003). Their research found that organisational culture and structure were influenced by organisational history, which had a direct impact on shaping the ITG of an organisation.

In the tradition of multiple contingency advocates, Van Grembergen and De Haes (2008) stress that each organisation’s ITG is influenced by a complex and unique combination of factors, both internal and external to the organisation; and that whilst the design of ITG may be effective in one setting, it may not necessarily work effectively in a different setting. In studying ITG implementation in a large multi-national Australian organisation, Willson and Pollard (2009) discovered that implementing effective ITG involved more than simply selecting suitable structures, processes, and relational mechanisms. Rather, it involved effective appreciation of the complex relationship between an organisation’s history and its current operations. Further, the organisation’s ability to promote: shared strategic vision; employee loyalty; strong involvement; commitment among senior, middle, and lower
level managers; as well as support for the organisation’s vision, were primary factors influencing how the organisation implemented ITG (Willson & Pollard, 2009). Such findings predicate further research into the actual implementation of ITG globally across the spectrum of organisations.

Herein ITG studies have emanated mainly from Western countries (North America, Europe and Australasia), with much less research from Asia. Specifically, in our literature search we were unable to locate any studies that explored ITG implementation in Thailand. In addressing this research gap, we sought to contribute some insight into how non-western countries with distinctive cultures implement ITG, and furthermore whether such cultural differences had an impact on the design and implementation of ITG. Hofstede’s (1985, 1995) seminal work, which differentiated the cultural styles in many countries including Thailand, showed that Thai people valued collectivism rather than individualist and authoritarian approaches. Other research has established significant differences in conceptions of communication competence (Sriussadaporn-Charoenngam & Jablin, 1999) and work-related values (Komin, 1990) in Thai organisations. For instance, with their strong social relationship orientation, Thais’ social relationship values inhibit task achievement (Komin, 1990). Such sociocultural differences have important implications for management and are likely to influence ITG implementation in Thai organisations, given cultural attitudes related to a strong desire to avoid uncertainty, which is significant in scenarios of change management like ITG (Hofstede, 1985).

Drawing these strands together the emergent research conceptual framework is shown in Figure 1 below. The first dimension (and associated research question) concerns the ITG mechanisms (structures, processes and relational mechanisms) used by the organisation to deploy ITG. The second dimension (and second research question) involves factors that impact on the adoption of these ITG mechanisms, notably organisational culture, organisational size and organisational structure.

**Figure 1. Research Conceptual Framework**

### 3 RESEARCH METHOD AND CONTEXT

#### 3.1 Method

Using a single case study (Yin, 2003) we studied how a complex utility organisation in Thailand, XYZ (a pseudonym), adopted and implemented ITG and the underlying factors that contributed to/impacted on the organisation’s success with this. Increased interest in case study research as a qualitative research method (Benbasat et al., 1987) and its use in answering “how” questions about a dynamic contemporary phenomenon (Benbasat et al., 1987; Eisenhardt, 1989; Yin, 2003), such as its use in prior studies that have explored ITG (e.g. Sambamurthy & Zumd, 1999; Wilkin & Campbell, 2010), provided credence for the use of this method in addressing our research questions. Moreover, our choice of an in-depth case study allowed us to study the organisation and its ITG implementation in its natural context. This is particularly useful in situations where knowledge of IS researchers and practitioners is in an exploratory stage (Darke et al., 1998). Further, the method permitted us to identify and understand the approaches and subtle interactions that occurred in the organisation,
thereby providing rich insight (Bhattacharjya & Chang, 2006) and enabling us to fulfil our objective of identifying the factors that shape ITG practices.

Qualitative data related to the case study was collected via company documents and in-depth semi-structured interviews (both face-to-face and telephone) with three stakeholder groups who were involved in/or affected by the adoption of ITG (see Table 1). Documentary evidence included: the company’s annual report; IT project investment plan; IT policy; IT master plan; IT steering committee structure; risk management manual; risk management policy; guidelines on corporate governance of state-owned enterprises 2009; corporate ITG assessment document; corporate risk management assessment report; risk management scores; and IT management evaluation report. The interviews, which lasted 1 – 2 hours, were conducted with stakeholders including:

1. the Head of the Business Units for the organisation, who was also the Executive Manager (this interviewee contributed insight on behalf of the Business Unit stakeholder group);
2. the IT manager who was also a member of the Corporate IT Steering Committee (their primary role was to oversee enterprise-wide ITG, thereby providing the technical side); and
3. internal auditors whose primary role was to monitor ITG activities to ensure that the organisation’s ITG practices corresponded to the desired behaviour (these interviewees provided insight into the control side).

<table>
<thead>
<tr>
<th>Stakeholder Group</th>
<th>Interviewee</th>
<th>Number of Interviews</th>
<th>Years of Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Unit</td>
<td>Business Unit Head and Executive Manager</td>
<td>1</td>
<td>20 – 30</td>
</tr>
<tr>
<td>Technical Side</td>
<td>IT Manager and member of the Corporate IT Steering Committee</td>
<td>1</td>
<td>20 – 30</td>
</tr>
<tr>
<td>Control Side</td>
<td>Internal Auditor</td>
<td>2</td>
<td>5 – 15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>4</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Interviews Conducted with ITG Stakeholders in XYZ

The interviews were structured around the conceptual framework presented in Figure 1 (see above), with open-ended questions like “what factors do you think have significantly impacted on or contributed to why your organisation decided to implement IT governance?” The questions probed for information about both RQ1, the organisation’s ITG structures, processes and relational mechanisms, and RQ2, the factors and organisational culture that impacted this. At the conclusion of the interviews material was transcribed and manually analysed using colour-coding and flagging to identify and classify the major themes and impacting factors. As shown in the extract below (see Table 2), this method was useful in highlighting important information (Patton, 2002).

<table>
<thead>
<tr>
<th>Interview Transcripts</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Q. Could you please describe the structure of XYZ’s IT organisation in more detail? | • Governance structure was seen as a control mechanism  
  • Work scope impacted on the IT governance structure |

Table 2. Sample Extract from Analysis of the Interview Data

Using triangulation we cross-checked the interview transcripts against each other and XYZ’s documents to see how the same ITG issue was addressed. Finally, pattern matching was used to compare and contrast the findings in this study with prior research (Eisenhardt, 1989; Patton, 2002).

3.2 **Context: Case Study**

XYZ is a very large state-owned enterprise in the utility sector in Thailand, with more than 20,000 employees and revenue of over AS1 billion. Structured as a functionally-based organisation, XYZ’s
corporate headquarters are located near Bangkok, whilst the regional offices of its 8 business units are located across the country. XYZ is the largest business of its type in Thailand. The organisation spends over A$20 million on IT investment each year and manages its IT operations in-house. With respect to experience with ITG, XYZ has implemented some form of ITG for more than 25 years and is currently ranked in the top 5 performers in corporate governance amongst the state-owned enterprises in Thailand. Given its size, complexity and monopoly (Yin, 2003), XYZ is considered to be representative of other organisations in Thailand’s utility sector, making it suitable as a typical case study. Further, as a country, Thailand is an appropriate location to undertake case-based research as its typically Eastern culture differs in many aspects from that exhibited in Western nations and developed countries, where much of the existing research has been conducted. In exploring cultural influences on ITG implementation at XYZ, it is important to differentiate levels of culture, particularly the interplay between Thai national culture and the organisational culture of the Thai state-owned enterprise.

4 RESULTS

This section reports on three findings: (1) the major challenges XYZ faced in adopting ITG; (2) how XYZ implemented ITG to address its circumstances; and (3) the factors that contributed to/impacted on the effectiveness of XYZ’s implementation of ITG.

4.1 Challenges Faced in Adopting ITG: Issues with Organisational Size, Structure, Diversity, and Information and Communication

As described in Section 3.2, XYZ is a very large enterprise structured as a functionally based organisation, with 8 business units that are sub-divided into divisions, sections and departments. The head of each business unit is a C-level executive. XYZ’s IT function is categorised into corporate IT and divisional IT. Corporate IT, under the “Policy and Planning” business unit (PPBU), is responsible for managing IT use for corporate purposes. Divisional IT sections are responsible for managing IT activities for their business units or divisions. Given XYZ’s geographical and organisational size, each business unit and subdivision has its own self-managed divisional IT department to facilitate handling business unit IT activities. This structure represents a decentralised IT organisation (see Figure 2).

Figure 2. IT Organisation Structure at XYZ (Simplified)

A major challenge with ITG was the difficulty in managing IT resource investments among business units. As a decentralized IT organisation, XYZ allowed each business unit to have its independent IT-activity decision rights. Given that controlling and monitoring IT activities and the ITG practices of business units and their subdivisions was difficult, XYZ found that without proper coordination and
communication they experienced redundant IT investments. Further, as a large organisation, they experienced difficulty in communicating ITG practices/benefits to employees, thus creating some resistance to change in the early stages. We report below on XYZ’s implementation of ITG structures, processes, and relational mechanisms that addressed its circumstances and these issues.

4.2 Establishment of the ITG Committees
To cope with controlling and monitoring issues, XYZ established ITG committees at both the corporate and business unit level. The Corporate ITG Committee (CITGC) monitored and managed corporate IT resources in order to reduce redundancy in IT investments, improve IT asset utilisation and ensure that IT policy and standards were consistently applied. The CITGC, chaired by the head of the PPBU, included the CIO (Vice Chairman); eight business representatives plus one representative chosen from independent divisions (i.e. internal audit); the IT manager from the corporate IT (committee secretary); and the assistant IT manager (assistant secretary). The Business Unit ITG Committees (BUITGCs) were responsible for controlling and monitoring IT activities at the business unit level. Each BUITGC was chaired by the business unit representative (a member of the CITGC) and included business unit staff (at managerial level) appointed by the chairman. Given the shared structure of the CITGC and the BUITGCs, XYZ used this structure as an alternative way to communicate its ITG from the corporate to the business unit level via the committee structure.

4.3 Arrangement of Key ITG Decisions
To facilitate controlling and monitoring of IT activities, XYZ assigned five key IT-activity decision rights to the CITGC: IT principles; IT architecture; IT infrastructure strategies; business application needs; and IT investment (Weill & Ross, 2004). To ensure business/IT alignment, the BUITGCs took part in the decisions regarding the worthiness of the business applications investment, while the CITGC made the final decisions. This ensured achievability of shared IT infrastructure and architecture across business units. Apart from the CITGC, the Executive Committee and the Board of Directors were involved in the IT investment decision processes. As a key decision maker, the CITGC could control and monitor corporate-wide IT activities more effectively and ensure the application of common ITG practices.

4.4 Ensuring Strategic Alignment and Compliance: The Role of the IT Master Plan
XYZ used an IT master plan to manage and communicate IT decisions and responsibilities to business units. The plan served as a repository of outcomes of the organisation’s IT decision making processes. Its preparation involved the coordination of all business units, and was revised yearly according to business strategies, IT strategies, laws and regulations, and IT assessment results. This ensured IT and business units were working together and complying with relevant mandatory laws and regulations.

4.5 Communication of ITG Practices
Effective communication among ITG stakeholders and shared understanding between business and IT people are essential keys to ITG success (Reich & Benbasat, 2000). XYZ attempted to create mutual understanding between business and IT divisions and corporate IT by conducting meetings twice a year. These functions aimed to communicate new IT policy and business plans to IT people so that they were aware of how they could become involved in new ITG practices. This allowed XYZ to use these IT people from different regional offices and business units as advocates to help it communicate ITG practices. XYZ called these "train the trainer". Moreover, "leading by example" was adopted to facilitate the implementation of new ITG practices. At XYZ, a corporate IT security project was implemented at the corporate IT division to provide a role model prior to implementing the project in other divisions. In addition, an annual HR development program was also conducted to educate employees from top management to operational staff about ITG. These strategies all contributed to improved understanding about ITG.
4.6 XYZ’s Implementation of ITG

Given our focus on exploring how XYZ had implemented ITG, we now summarise the ITG mechanisms adopted by XYZ in terms of the structures, processes and relational mechanisms proposed by Van Grembergen et al. (2004) (see Table 3).

### Structures
- Corporate-level ITG committee (CITGC); business unit-level ITG committees (BUITGC);
- clearly defined roles and responsibilities of top management; IT principles (CITGC/CITGC)*;
- IT architecture (corporate IT/CITGC)*; IT infrastructure (corporate IT/CITGC)*; business application needs (business unit/BUITGC + CITGC)*; IT investment (business unit + corporate IT/CITGC + Executive Committee + Board of Directors)*

### Processes
- IT master plan; IT portfolio management; online IT budgeting system; online risk management system; online internal control system; IT performance variances analysis; flexible IT policy by business units; IT general controls; IT application controls; ISO/IEC27001; IT project management; Capability Maturity Model Integration; service level agreements; ITG auditing

### Relational Mechanisms
- Intranet; internal memos; newsletters; top management announcements; annual HR development programs; e-learning system; ITG workshop/training programs; annual meeting of administrators, programmers, and analysts; meeting of ITG committees; leading by example

**Table 3.** XYZ’s Implementation of ITG Structures, Processes and Relational Mechanisms

| Key: *Key person for IT decision input / Key IT decision maker |

4.7 Factors that Contributed to/Impacted on the Effectiveness of XYZ’s ITG

In analysing data from the interviews with the IT manager (ITM), executive management (EM) and internal auditors (IA), various recurrent themes emerged concerning factors that had impacted on the effectiveness of XYZ’s implementation of ITG. In the analysis process, four major categories and fourteen distinct factors were isolated. Table 4 summarises this analysis. Whilst our results align with some prior research that identified some of these factors e.g. our results concur with Ein-Dor and Sagev’s (1982) finding that organisational size impacts on ITG structure, we also extend earlier findings e.g. we highlight the related difficulty in achieving ITG understanding across all employees.

### Impacting Factors

#### Factors that Impact on the Nature of ITG Mechanisms:

<table>
<thead>
<tr>
<th>How the Factors Impacted ITG at XYZ</th>
<th>Pertinent Interview Extracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived value of IT to core business value</td>
<td>Structure of the CITGC Responsibility of the CIO was delegated to the assistant executive management</td>
</tr>
<tr>
<td>Work scope of business units (BUs) and senior management</td>
<td>Structure of the CITGC Responsibility of the CIO was delegated to the assistant executive management Different work scope led to flexible ITG processes (e.g. customised IT policy by different BUs) Responsibility assigned to the appropriate person to make key IT decisions</td>
</tr>
<tr>
<td>Organisational structure</td>
<td>Decentralised organisational structure led to a decentralised ITG structure and flexible ITG processes (e.g. customised IT policy by different BUs) Establishment of BUITGCs who monitored IT activities within each BU Establishment of a CITGC to oversee enterprise-wide ITG activities and to solve redundancy problems that may occur</td>
</tr>
</tbody>
</table>

“‘Our core business operation has a value over A$300 million, while the value of IT projects is only A$20 million so the work of the CIO is assigned to the assistant head of PPBU. The CIO task is not for the level of executive management.’ (ITM)"

“‘The head of the PPBU who is also the chairman of the CITGC should be the CIO of XYZ but he has a lot of responsibility in his executive management work so the work of CIO is assigned to his assistant to help reduce work load.’ (ITM)"

“Because we manage IT separately in each BU that is why we need to set up BUITGCs and [a] CITGC to monitor their activities ... it is clear that our governance structure is related to how we structure our organisation.’ (ITM)"
<table>
<thead>
<tr>
<th>Impacting Factors</th>
<th>How the Factors Impacted ITG at XYZ</th>
<th>Pertinent Interview Extracts</th>
</tr>
</thead>
</table>
| Organisational size | • Establishment of BUITGCs who monitored IT activities within each BU  
• Establishment of a CITGC to oversee enterprise-wide ITG activities and to solve redundancy problems that may occur  
• It was difficult to achieve ITG understanding across all employees | “XYZ is a very large organisation ... so it is quite difficult to create ITG understanding [amongst all of] these employees who have different understanding and knowledge.” (IA1) |
| Business strategies | • Direction was provided about how ITG processes (e.g. IT master plan) should be implemented to align IT strategies with business strategies | “Our IT master plan must align with our business strategies. If the business direction is changing... then we need to propose [an] IT plan.” (ITM) |
| Nature of IT operations | • The different nature of IT operations in different BUs led to flexible ITG processes (e.g. customised IT policy by different BUs) | “Our IT in different BUs is different, we [corporate IT] can’t provide explicit guidelines to them so we adopt a flexible IT policy where each BU defines its own IT policy that matches their IT operations.” (ITM) |
| Working practice | • The structure of the CITGC (for fairness) comprised representatives from all BUs and maintained the balance of power  
• Involvement of different parties in the CITGC helped to promote integrity and ethical behaviour within the organisation | “The CITGC comprises representatives from all BUs and the corporate IT ... If I am working without considering other parties I can do anything I want, but when we are working with different parties as a team, I need to perform things correctly because other parties are looking at me.” (ITM) |
| Laws and regulations, government policy, and organisational policy | • Explicit guidelines were provided to achieve desirable behaviour which was reflected in ITG processes (e.g. ISO/IEC27001, IT master plan, IT policy) | “The Computer Crime Act and the Electronic Transactions Act is the reason why XYZ must implement ISO27001 and we must also include this into our IT master plan.” (ITM) |
| Factors that Impact on the Motivation for ITG: | Pertinent Interview Extracts |
| Government ITG assessment program | • Assessment criteria impacted on the design of ITG structures, processes, and relational mechanisms since XYZ had to follow the criteria in the assessment program to achieve desirable assessment scores | “We are assessed strictly in every area of ITG... This assessment ... [makes parties] pay high attention to improve ITG.” (ITM) |
| Performance bonus | • Motivation was provided to follow the best practices standard since the bonus was linked with ITG assessment results  
• Improved ITG effectiveness | “The factor that impacted on us the most to improve ITG is the ITG assessment program enforced by the government... because it is directly linked with the performance bonus.” (ITM) |
| Unattractive remuneration | • Lessened motivation and effort for employees to follow rigorous ITG practices | “This is the weakness ... when the pay rate is the same, some employees would say what I am doing right now is more than the salary I get so why bother doing those best practices”. (ITM) |
| Factors that Impact on the Evolution of ITG: | Pertinent Interview Extracts |
| Source of ITG knowledge (e.g. external consultant, training program) | • The design of ITG structures, processes, and relational mechanisms  
• New sources of ITG knowledge improved the effectiveness of ITG over time  
• Increased top management and employee awareness and understanding of ITG | “Each year the consulting firms’ activity is to meet their clients... These firms will signal what should be the IT trend for this year... XYZ is made aware of ITG concepts from this process.” (ITM) |
| Factors that Impact on the Success of ITG: | Pertinent Interview Extracts |
| Top management commitment | • Motivation to implement ITG improved efficiency and performance | “ITG is not just that we must follow the laws but at XYZ our top management has strong visionary leadership about applying ITG to help improve performance.” (IA2) |
## DISCUSSION

### 5.1 Contribution to Prior Research

Although exploration of how effective ITG is delivered through the interaction between ITG structures and processes (Ribbers et al., 2002) was not an initial aim of our research investigation, our study of ITG at XYZ expands this understanding. Further, it reveals that effective ITG is enabled by the interaction between ITG structures and relational mechanisms. The four emergent themes arising from this that clarify how XYZ’s ITG structures, processes and relational mechanisms interact to deliver effective ITG is portrayed in Figure 3 (see below).

![Figure 3. Emergent Themes Related to Delivering Effective ITG at XYZ](image)

From a foundational perspective, effective ITG requires a strong structure with the responsibilities for ITG clearly defined and assigned. XYZ demonstrated strong ITG structure through establishment of the CITGC and creation of the BUITGCs. This practice supports ITG stakeholders understanding their roles, so they know how they should be involved in ITG processes, and acknowledges that their IT activities are being monitored and by whom. Further, the practice ensures integrity and responsible behaviour within XYZ, which contributed to ITG effectiveness. With clearly defined roles and responsibilities, XYZ utilised its ITG structure as a control mechanism. The CITGC and the BUITGCs acted as the control hub as all IT activities had to pass through the screening processes of these committees. This demonstrates how XYZ applied its ITG structure to its ITG processes thereby ensuring that day-to-day behaviours were consistent with predetermined outcomes (Weill & Ross, 2004). Further, as communication among ITG stakeholders is vital to the effectiveness of ITG, XYZ provides a good example of how ITG structure can be applied as a communication mechanism – for them ITG practices were communicated from the corporate to the business unit level via the CITGC and BUITGCs meetings. Moreover, the CITGC was also involved in facilitating communication among business units to promote IT resource sharing. These four themes, which arise from our study, highlight how ITG effectiveness can be delivered through the interaction of ITG structures, processes, and relational mechanisms.
5.2Factors that Impacted on ITG at XYZ

Although some of the impacting factors found in this study (see Table 4) were common to existing research, their impacts on ITG at XYZ were different. For instance, while Tavakolian (1989) found business strategies were associated with ITG structure, it was evident in this study that business strategies were enacted through intermediary structures (BUITGC) for XYZ’s ITG processes.

Further, whilst Weill and Ross (2004) argued that the government sector tended to adopt a centralised (business monarchy) IT decision making structure to IT principles and IT investment, and relied more on a federal style of decision-making for business application needs, our findings demonstrate some differences. At XYZ the five key IT decision domains were primarily the responsibility of the CITGC, with the exception of IT investment that required a further decision from top management (business monarchy). Considering that membership of the CITGC involved a c-level executive, corporate IT and business unit representatives, the CITGC is regarded as a federal ITG archetype (Weill & Ross, 2004). This difference might be explained by the impact of two factors, namely “senior management work scope” and “perceived value of IT activities to core business activities”. The value of IT projects at XYZ was relatively small in comparison with the value of its core business. Moreover, top management was normally responsible for XYZ’s core business projects, while IT projects were the responsibility of the assistant executive management (CIO). As a result the primary IT decision-making powers were assigned to the CITGC (federal archetype) and BUITGC rather than to top management (business monarchy archetype), which was normally responsible for the core business at XYZ. This highlights that there is still some disconnection between the IT management level and top management regarding ITG activities (Peterson, 2004; Raghupathi, 2007). We encourage future research to examine the factors underlying this gap, which could lead to the design of effective ITG solutions.

Of the fourteen impacting factors presented in Table 4, we found the factor with the greatest impact on how ITG at XYZ developed and improved over time was the “ITG assessment program”, as enforced by the government (a factor that is also linked with the performance bonus). Improvements in this area included: (1) the adoption of comprehensive ITG procedures and rigorous ITG implementation; (2) the incorporation of IT as a major component in the assessment program; (3) preparation of an IT master plan in advance, with the cooperation of all business units; (4) significantly enhanced integration of ITG activities and coordination of ITG activities among business units; (5) reduction of redundancy problems through the establishment of the CITGC (ensuring more effective management of IT resources); (6) enhanced communication about ITG, which resulted in greater understanding of ITG issues across the company, and (7) better coordination and participation from top management and employees in IT related decisions-making. In contrast to our findings on performance bonuses, Tu (2007) found that these had less impact on ITG in Chinese manufacturing firms provided that the gap between expected reward value and actual reward value was insignificant. One explanation for this difference could be industry differences (e.g. private organisation versus public organisation) and the influencing power of ITG stakeholders (e.g. the government).

5.3Cultural Impacts on ITG at XYZ

Whilst cultural differences at both national and organisational levels can affect how ITG is implemented in different countries, we found that the Thai national culture had no direct impact on the way XYZ designed its ITG structures and processes. Rather this was influenced by XYZ’s organisational culture that emphasised integrity and ethical behaviour. In fact this culture drove both the direction of ITG and how top management and employees needed to pay attention to it. Further, our case study revealed that XYZ’s organisational value system tended to have minimal power distance due to a “brotherhood” management style. This value system facilitates ITG communication between subordinates and superiors, although it conflicts with Hofstede (1995) who identified high power distance as a key attribute of Thai organisations. Further, in line with Hofstede’s (1995) findings of Thais’ propensity to strong uncertainty avoidance and of collectivism, we found that success may be partly contributed to the communication strategies and the BUITGCs that effected more lateral engagement and ownership of the change management exercise.
We did, however, find that Thai national culture impacted the strategy XYZ adopted to encourage its employees to follow ITG best practices. It is common knowledge that Thais do not like change. This was reinforced by one interviewee: "To be honest, I can tell you that this is a Thai national value . . . Thais prefer not changing, this is very common . . . that is why we need to implement change management. We must show to them about the benefits of ITG, and tell them to change for the better." XYZ realised this and adopted an appropriate change management strategy that created an understanding of ITG amongst employees. This reduced the impact of resistance to change.

Whilst prior research such as Kingsford et al. (2003) report on the impact of organisational culture on ITG implementation, our study provides further evidence of the impact of national culture on the implementation of ITG. Given that national value systems affect organisational value systems (Hofstede, 1985), a novel contribution of this research is to highlight the importance of cultural impacts, particularly the relationship between national culture and organisational culture on effective implementation of ITG. One should take into account that effective ITG implementation is not only about a top-down approach or an imposition of control, but also involves how organisations encourage their ITG stakeholders to understand and agree to follow this best practice. In doing so, it is undeniable to say that understanding cultural impacts is crucial to ITG success. Given most ITG frameworks were developed in Western countries, further exploration and consideration is required by IS researchers and practitioners concerning whether these practices are fully applicable to non-western countries such as Thailand where social relationship values are placed over principle-oriented values (Komin, 1990).

5.4 Limitations and Opportunities for Future Research

In terms of limitations, our findings are limited in three ways. Given that this research involved a single case study of a public-sector utility organisation in Thailand, the results are not necessarily representative of the unique characteristics of ITG in Thailand, nor of the experiences of other private organisations or business sectors. Further, the case organisation’s success in its ITG implementation impacts the factors found, which could have been different had the scenario been different.

Our findings suggest several areas of future research. Firstly, multiple case studies across both the public- and private-sectors could reveal a unique pattern of ITG in Thailand. Secondly, studies of organisations less successful in their ITG implementation could reveal the root cause of impediments and in turn contribute to new implementation strategies. Thirdly, studies of smaller organisations like small-to-medium enterprises (SMEs) would be insightful, as SMEs tend to work without the same predefined standards of their larger counterparts. Fourthly, given it is likely that national culture could impact on how SMEs design their instantiations of ITG, this is another avenue for further research.

Finally, these suggestions could be applied to other regions or multinational companies to clarify how cultural differences have impacted on the nature of ITG in different countries.

6 CONCLUSION

In this paper we have considered the ITG practices in a Thai utility organisation, including how it adopted and implemented ITG and the factors that contributed to or impacted on related effectiveness. From a practical standpoint the case study highlights critical success factors related to ITG like assessment practices and consideration of the impacts of culture on strategy, and details lessons learnt that other case organisations may consider adopting to improve their outcomes. Herein we enrich understanding about current ITG practices by providing insights into how organisations in different regions with different cultures have implemented ITG. This deeper understanding about how cultural differences impact the implementation of ITG should enrich theoretical ITG models and more fully articulate into associated implementation strategies.

REFERENCES


