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Towards a Better Understanding of How Effective IT Governance Leads to Business Value: A Literature Review and Future Research Directions

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Abstract

This paper reviews the existing literature on IT governance to assess whether IT governance has contributed to delivering business value from IT and if so, how. The conducted literature review has shown the scarce number of studies that focus on why and how effective IT governance may lead to business value. By using a structured literature review analysis, the paper has offered a number of insights to the topic of IT governance: a) provided a systematic definition of effective IT governance based on a multi-dimensional framework, b) listed benefits of effective IT governance, and c) identified mechanisms that lead effective IT governance to those benefits. This paper takes a step towards addressing the 'why' and 'how' knowledge gaps by synthesising the fragmented knowledge to provide the best that is known about the subject and to identify future research directions.

Keywords

IT Governance, IT Strategy, Business IT Decision Making, Business IT Accountability, Business Value of IT

INTRODUCTION

There have been many failures of large IT investments (Weill and Woodham 2002, Standish 2009). For example, Weill and Woodham (2002) list newly developed applications that were never used properly, e-business projects that were ill-conceived or poorly implemented, and major enterprise resource planning (ERP)-system implementations that were never completed. On the other hand, they also report that returns on IT investments in some enterprises have been above industry average. These successful enterprises make not only better but more effective IT decisions. Moreover, Weill and Woodham (2002) argue that enterprises that make more successful IT investments do so because they have better IT governance. Later, Weill and Ross (2004) claim that effective IT governance is the single most important predictor of the value that organisations can generate from IT.

Others have made similar claims about the importance of IT governance. For example, Lainhart (2000) argues that IT governance allows an enterprise to more effectively concentrate on major business issues such as ERP and e-commerce and facilitates guaranteeing security, integrity and reliability of organisation's strategic information. So that effective IT governance ensures an enterprise benefits from current business opportunities and prevents awaiting business threats. The ultimate goal of IT governance is to achieve strategic alignment between the business and IT to ensure that IT investments lead to business value (Haes and Van Grembergen 2005).

However, have we ever understood what does the good or effective IT governance actually mean? Although many studies have claimed that effective IT governance leads to some benefits, neither the definition of effectiveness in this context has been addressed properly nor the reasoning for 'why' and 'how' effective IT governance leads to business value has been argued supported with enough empirical evidence. While the limited number of academic studies on this subject has made this inquiry even more difficult to tackle with. Among the top cited literature on IT governance (using Google Scholar, effective as June 2012), only three studies have been published in the Senior Scholars' Basket of Journals on IS (AIS website, June 2012), two in MIS Quarterly (Sambamurthy and Zmud, 1999 and Xue et al. 2008) and one in the Journal of MIS (Tallon et al. 2000).

In a nutshell, there is not enough academic literature that could suggest a comprehensive understanding on IT governance and even less on effective IT governance. Confusing terminology used in some studies as well as scattered explanations stress out the fragmentation of research on top of the lack of academic rigour although there are many relevant industry sources. In addition, the link between "effective IT governance" and "business value" may appear to some as a tautological link, however this paper aims to dig into mechanisms of why and how effective IT governance leads to business value to ensure unfolding what is happening between the two concepts.

In response to the identified gaps in the literature, this paper reports on results from a literature review that sought to answer the following research questions:

- *What is effective IT* Governance*?*
- *What are the benefits of effective IT governance?*
- *Why and how does effective IT governance lead to these benefits?*

The next section explains the literature review methodology used in this study. Next, definition of IT governance and what effectiveness means in this context are presented based on a proposed three dimensional framework. The claimed benefits of effective IT governance are summarised then. Next, the paper synthesises what is known about why and how effective IT governance leads to business value from IT by modelling prior literature and proposes a new integrative model (EITGBV) based on the literature synthesis. Finally, the paper concludes with a discussion of the findings and deduces a detailed research agenda with future research recommendations.

LITERATURE REVIEW METHODOLOGY

Two methods were used in selecting papers for the literature review. First, publications with high citations in total (greater than twenty nine) as well as those with higher citations per year (minimum of five) were selected by filtering the Google scholar search engine (using Publish or Perish software) with keywords such as "*IT Governance*", "*Information Technology Governance*" and "*Governing Information Technology*". However, when looking at only highly cited literature, this might have excluded some useful publications. Therefore, the titles of articles in the Senior Scholars' Basket of Journals on IS (AIS website, June 2012) were also reviewed. These journals included EJIS, ISJ, ISR, JAIS, JIT, JMIS, JSIS and MISQ. Forty-four studies related to IT Governance were identified through this mechanism, including four books (marked by "#" in the REFERENCES section).

Second, to capture practitioners' opinions about IT governance we also searched for industry publications. Influential professional sources (conferences and institutes, e.g., ITGI and ISACA) were identified and the titles of their publications on the topic were reviewed. This search yielded three additional professional studies which are marked by "+" in the REFERENCES section. Thus, overall, 47 publications were selected for content analysis and synthesis. These publications are marked by "*" in the REFERENCES section of this paper. Note that 11 of these 47 studies were authored or co-authored by Wim Van Grembergen, who is closely associated with the professional organisation, ISACA, and five were authored or co-authored by Peter Weill. So there are fewer independent sources of ideas in this literature review than the publication count of 47 may suggest.

A key finding from the literature review is that research on IT governance is divided into three core areas. The reading of all 47 publications suggested that the three core dimensions of IT governance discussed in the literature are a) what the business-IT related decision is about, b) who makes those decisions, and c) how the business-IT decision making arrangements are implemented. Table 1 summarises how frequent these topics were discussed.

Table 1. Frequency of discussion of three dimensions of IT governance

IT-Governance Dimension	What	Who	How	**Total number of publications reviewed**
Times discussed in the 47 documents reviewed	24	27	42	**47**

EFFECTIVE IT GOVERNANCE

The three elements of What, Who and How offered a potential pathway for (a) identifying common ground in the literature, and (b) providing greater insight into the meaning of "IT governance". Based on this insight, the definition of IT governance proposed in this study is as follows:

IT Governance is an organisation's framework for business-IT decision making. It involves specifying (a) in what domain(s) the decision-making process will be involved, (b) who makes the decisions and who has input to those decisions, and (c) how, i.e., through what mechanisms, these decisions should be made and supervised.

This definition is a) more comprehensive as it encompasses all three dimensions of IT governance discussed in the literature, and b) consistent with previous studies which provided a definition of IT governance (Korac-Kakabadse and Kakabadse 2001, Patel 2003, Sambamurthy and Zmud 1999, Webb et al. 2006 and Weill 2004).

Figure 1: Effective IT governance leads to business value from IT

The model shown in Figure 1 depicts the knowledge claim by Weill and Woodham (2002) and others mentioned above. The arrow indicates causality in a variance model. This paper explores the link by reviewing and

synthesising the literature. To test this model effective IT governance arrangements are defined in this paper as the soundness of business IT decisions with respect to each of the three dimensions of IT governance (What-Who-How). Definitions of what "soundness" means for each of these three dimensions are presented in Table 2. In the language of structural equation modelling, these are three indicators of effective IT governance.

Table 2. Definitions of the soundness of decisions in the three dimensions of IT governance

IT-Governance Dimension	Definition of *Soundness* for this Dimension of IT Governance
What? (Decision Domain)	Organisational arrangements for the definition of IT maxims, development of IT-architecture standards, development of IT-infrastructure strategies, choices of business applications, and IT investment and prioritisation are well defined, agreed, widely understood, and widely approved of.
Who? (IT Governance Style)	Key players in the organisation understand and agree on which levels, roles, and parts of the organisation have and should have *input* into IT investment decisions, and which levels, roles, and parts of the organisation *get to make* and should get to make IT-investment decisions.
How? (IT Governance Mechanisms)	The mechanisms (i.e., the ways and means) for making decisions, e.g., through formal standing committees or informal discussions with colleagues, are well defined, agreed, widely understood, and widely approved of.

WHAT BENEFITS DOES EFFECTIVE IT GOVERNANCE PROVIDE?

Claimed benefits of effective IT governance were scattered among the 47 studies selected for the literature review. The most common benefits are (summarised in column 1 of Table 3): 1) strategic alignment between IT and enterprise objectives (almost the most agreed upon benefit in the academic literature as well as practitioner's publications), 2) protecting the enterprise's investment in IT, 3) taking advantage of current business opportunities, and 4) avoiding potential business threats. Moreover, Better value delivery, improved return on IT investments, improved transparency and accountability are also highlighted repeatedly in the literature.

In addition, although many studies pointed out benefits of effective IT governance, few explained how these benefits were achieved or provided enough empirical evidence to support their claims. Of the 47 publications, Guldentops (2004), Weill and Ross (2004), Broadbent and Kitzis (2005), and the ISACA-backed NCC (2005) had the most detailed discussions of the benefits of effective IT governance. The key benefits mentioned in these four studies are summarised in Table 3, however the benefit categories listed in column 1 relate to the most common benefits reported in all 47 publications, not just the four highlighted.

Table 3. Summary of the benefits of effective IT governance, as claimed in the literature

Most common benefits	Guldentops (2004)	Weill and Ross (2004)	Broadbent and Kitzis (2005)	NCC (2005)
1.Strategic alignment between IT and enterprise objectives 2.Protecting the enterprise's investment in IT 3.Taking advantage of current business opportunities 4.Avoiding potential business threats	1.Aligns IT with the business 2.Protects shareholder value 3.Directs and controls IT investment, opportunity, benefits 4.Sustains current operations and prepares for the future 5.Manages IT risks clearly	1.Better focuses IT spending on strategic priorities 2.More than 20 percent higher ROA from IT 3.Implementation of new information technologies that bombard enterprises with new business opportunities 4.Allocates IT decision making to those in charge of outcomes 5.Better IT value learning 6.Involves the right people in the IT decision making process 7.Clear and transparent decision making process	1.Synchronises IT strategy with business strategy 2.Builds trust 3.Better delivery 4.Encourages desirable behaviour in the use of IT	1.Performance improvement 2.Improved ROI/ stakeholder value 3.Provides opportunities and facilitates partnerships 4.Enables external compliance 5.Improved transparency and clarified accountability

It should be noted here that there is a restriction with the above conclusion. As of the lack of empirical evidence, the measure of potential validity used here was the repeated number of times a particular benefit of IT governance was claimed. There is a possibility of missing some less often cited benefits which could also be valid. Also, as a result of lack of enough explanation of why and how IT governance results these benefits, it is possible that indeed some repeatedly stated benefits have been credited to IT governance by mistake, e.g.,

benefits of desired behaviour in the use of IT. The analysis of how effective IT governance results the claimed benefits is discussed next.

EITGBV MODEL

Based on the literature review, the mechanism through which effective IT governance leads to greater business value is as shown in Figure 2 below. According to EITGBV (acronym for effective IT governance and business value) model, the solid arrows represent explicit association and the dotted arrows indicate strong implicit association derived from the literature review analysis. The integrative model builds upon accumulated knowledge to focus on a) the three-dimensional framework for effective IT governance, b) expected business value from IT governance and c) moderators of the relationship between effective IT governance and business value.

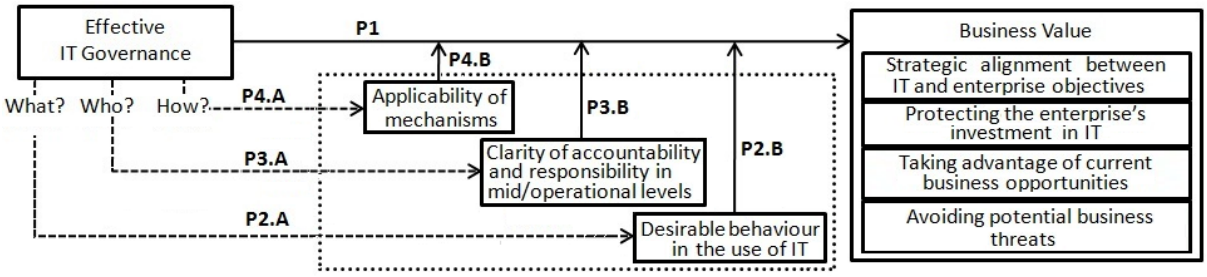

Figure 2 – Effective IT Governance Business Value (EITGBV) Model

We argue that this EITGBV model a) is more comprehensive than previous explanations because it covers all the three dimensions of IT governance (What, Who and How), b) this model is simpler, i.e. more parsimonious than the previous models, and c) although some authors have provided complex explanations about how effective IT governance leads to business value, not all are completely correct, e.g., in the Weill and Ross' (2004) explanation, desirable behaviour in the use of IT directly drives business value but in the model above we argue that desirable behaviour in the use of IT is one of the moderators of the relationship between effective IT governance and business value. In order to achieve business value from IT, all three moderators need to be in place. In other words, if any of these moderating variables are not there, effective IT governance will not necessarily lead to business value from IT. Figure 2 contains five constructs defined in Table 4 and seven propositions. The seven propositions in Figure 2 are discussed and justified in the sections below.

Table 4. Definition of concepts in the EITGBV Model

Construct	**Definition**
Effective IT Governance	Refer to Table 2 above
Business Value	The expected benefits from IT governance: 1) strategic alignment between IT and enterprise objectives, 2) protecting the enterprise's investment in IT, 3) taking advantage of current business opportunities, and 4) avoiding potential business threats.
Desirable behaviour in the use of IT	Those behaviours in the use of IT required to achieve outcomes defined by business goals; e.g., cost lowering, customer data sharing, or the stimulation of innovation.
Clarity of accountability and responsibility in mid/operational levels	Clearly articulating who is responsible for what and who is to be held accountable for what in mid/operational levels of the organisation to achieve improved transparency and accountability.
Applicability of mechanisms (according to Korac-Kakabadse and Kakabadse's 2001)	Well-designed means of implementing the IT Governance arrangements that lead IT managers and suppliers to assemble business–IT integrated plans, assign responsibilities and accountabilities, define IT priorities, consider business needs, and measure and monitor their performance.

In order to understand better why and how effective IT governance leads to the discussed benefits, model diagrams were derived from a summary of publications providing such explanations. In these diagrams, presented in Figure 3, 4, 5 and 6, each arrow represents an explicit association in the author's argument. A comparison of these four figures revealed that although each set of authors provided different explanations of how effective IT Governance leads to business value, some common patterns were evident. E. g., "clarity of accountability and responsibility in mid/operational levels", and "desirable behaviour in the use of IT" were repeated multiple times.

LITERATURE SYNTHESIS AND PROPOSITION FORMULATION

(a) Effective IT governance leads to greater business value from IT investments (P1)

As said before, Weill and Ross (2004) claim that effective IT governance is the single most important predictor of the value organisations generate from IT. Clear objectives in each decision domain (the 'What' dimension) help IT governance to be more effective and improve the enterprise's performance at several points (Tallon et al. 2001). Identifying who makes business-IT related decisions and who is accountable for what in each decision area (the 'Who' dimension) is the first step in designing IT governance (Weill and Ross 2004). The 'What' dimension may also affect the approaches an enterprise selects in the 'Who' dimension. According to the literature (Broadbent and Kitzis 2005, Lazic et al. 2011, Van Grembergen 2000 and Weill and Woodham 2003), the procedures and means of implementing IT governance mechanisms (the 'How' dimension) are ultimately critical in making the IT governance more effective.

Each of the three IT governance dimensions is embedded in a chain of cause and effect logic that connects effective IT governance to the organisational benefits and explains the process for transforming intangible assets to the claimed benefits discussed above. Clear objectives in each decision domain (the 'What' dimension) place strategy and vision at the top of management's agenda and proactively create an agreed upon set of objectives among people in an enterprise so that people will buy in and adopt whatever behaviours, and take whatever actions required to achieve these goals. The decisions resulting from the IT governance arrangements that have carefully considered the three dimensions will direct people in the enterprise towards the overall vision and support or oblige mid/operational managers to concentrate on a handful of applicable mechanisms that are most critical. The right business-IT decision makers (the 'Who' dimension) know what the end result should be if they follow clear objectives in each decision domain so they cascade the enterprise's objective, accountabilities and responsibilities to the enterprise through well designed mechanisms. This leads to true capability of integrating business and IT alignment which is the result of implementing applicable and well-designed mechanisms across the enterprise (the 'How' dimension). Once the right people come together through proper business-IT decision making mechanisms, it is more likely that programs which are more aligned to business objectives get priority and be supported in IT investments. So the investments made in IT will be more protected and more aligned to the enterprise's ultimate business goals. Well-designed mechanisms like allocating resource decisions and applying IS/IT development audits and security policies help to take advantage of current business opportunities, mitigate the risks of potential threats, and safeguard the intangible information assets of the enterprise (Korac-Kakabadse and Kakabadse 2001).

To summarise, IT governance arrangements that have carefully considered choices about 1) What the business-IT decision is about, 2) Who makes the decision and is to be held accountable for what aspects of the decision, and 3) How the decision making processes are to be implemented will lead to greater business value than IT governance structures when all three choices are not considered. As explained above and represented in Figure 2, carefully considering all these three choices will lead to the three moderators of the relationship between effective IT governance and the business value from IT. The ideas discussed above may be summarised as follows:

> *Proposition One*: The more effective the IT governance leads to the greater business value from IT investments only if all three moderators are addressed properly, i.e. only if a) desirable behaviours in the use of IT are developed, b) accountability and responsibility in mid/operational levels is clarified properly, and c) applicable IT governance mechanisms are in place.

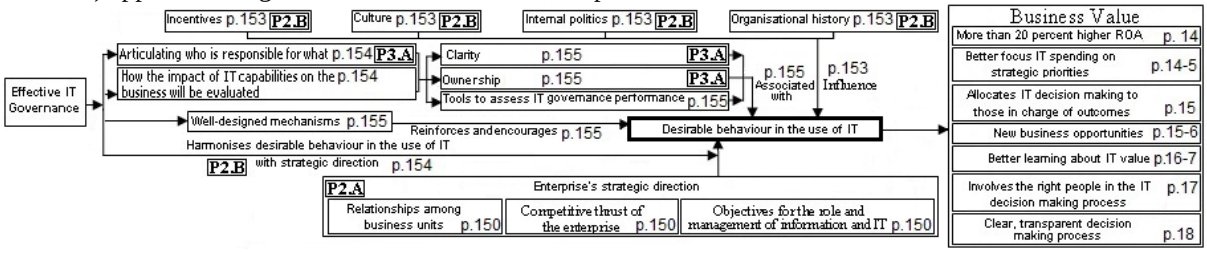

Figure 3 – Modelling Weill and Ross' (2004) discussion

(b) The What Dimension and Desirable Behaviour in the Use of IT (P2.A & P2.B)

As defined in Table 4, *desirable behaviour in the use of IT* is "the behaviours in the use of IT required to achieve outcomes defined by business goals". This concept comes from Weill and Ross (2004) and Broadbent and Kitzis (2005). They all argue that effective IT governance leads to desirable behaviour in the use of IT. Figure 3 models Weill and Ross' (2004) argument in detail. They believe that from an IT governance perspective, enterprise strategy is a group of clear, concise statements (the 'What' dimension) clarifying the enterprise's strategic goals.

These statements express an agreed upon strategy that can be easily communicated. The attention of all employees is focused on simple and achievable messages through strategy, whether or not the employees are part of the strategy making process. Usually, strategy statements articulate one or more of the following: relationships among business units, competitive thrust of the enterprise, objectives for the role and management of information and IT. The enterprise strategy and organisation provide the direction for desirable behaviour (Weill and Ross 2004).

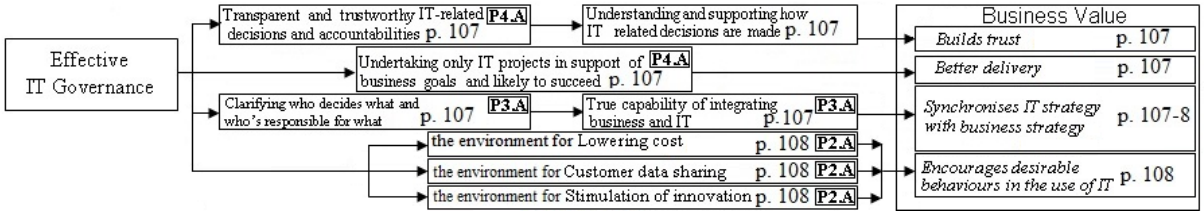

Figure 4 – Modelling Broadbent and Kitzis' (2005) discussion

Eventually, as presented in Figure 4, IT governance constructs the basis for behaviours like cost lowering, customer data sharing, or the stimulation of innovation. The encouragement of these activities is important. Good governance helps in ensuring that actions taken by individuals and groups throughout the enterprise will be consistent with the goals of the enterprise (Broadbent and Kitzis 2005). As it is the 'What' dimension of the IT governance framework that identifies the clear concise strategies, we argue that the clearer the strategy and what the business-IT decision is about (the 'What' dimension) will lead to more focused attention of all employees and consequently behaviours leading to desired outcomes will be more encouraged. Therefore, it is propositioned that:

> *Proposition Two-A:* A clearer 'What' dimension in effective IT governance will lead to the more desirable behaviour in the use of IT.

Weill and Ross' (2004) definition of governance – "specifying the decision rights and accountability framework to encourage desirable behaviour in the use of IT" – does not include strategy. Instead, desirable behaviours of the people in the enterprise are focused. They claim business value is created by behaviours, not strategy. To achieve performance goals, desirable behaviours must be in harmony with strategic direction (Weill and Ross 2004). Since desirable behaviour in the use of IT is so important in this relationship, it is propositioned that:

> *Proposition Two-B:* Desirable behaviour in the use of IT will help effective IT governance lead in turn to more business value returned from IT investments.

Although Weill and Ross (2004) provide a complex model explaining how effective IT governance leads to desirable behaviour in the use of IT, their explanation of why and how this desirable behaviour leads to business value is not clear. We argue that although desirable behaviour plays an important role in achieving business value, it is not the only cause. Desirable behaviour helps effective IT governance to lead to business value. It is argued that desirable behaviour on its own cannot necessarily lead to business value if the enterprise does not have applicable mechanisms in place or the responsibilities and accountabilities are not clear in mid / operational levels.

(c) The Who Dimension and Clarity of Accountability-Responsibility in Mid/Operational Levels (P3.A & P3.B)

As defined in Table 4, *Clarity of accountability and responsibility in mid/operational levels* is "Clearly articulating who is responsible for what and who is to be held accountable for what in mid/operational levels of the organisation to achieve improved transparency and accountability". As discussed before and shown in Figure 4, Broadbent and Kitzis (2005) argue that effective IT governance builds trust of the leadership by making IT-related decisions transparent. True capability for integrating business and IT can exist only when clear and strong systems of IT governance exist. Nothing can reduce action to a slow progress as fast as doubt about "**who decides what and who's responsible for what**" (the 'Who' dimension). Effective synchronising of IT strategy with business context is achieved with good IT governance (Broadbent and Kitzis 2005). Both the differentiation and integration of IT decision making across business and IT in mid/operational levels of the organisation are the results of effective IT governance architectures (Peterson 2004). Good governance design requires measurement and accountabilities. Clarity, ownership, and tools to assess IT governance performance are provided by articulating who is responsible for what (Weill and Ross 2004). Since the 'Who' dimension is so important in having a clearer accountability and responsibility in mid/operational levels, the following proposition can be concluded:

> *Proposition Three-A:* A clearer 'Who' dimension in effective IT governance will lead to the more clarified accountability and responsibility in mid/operational levels.

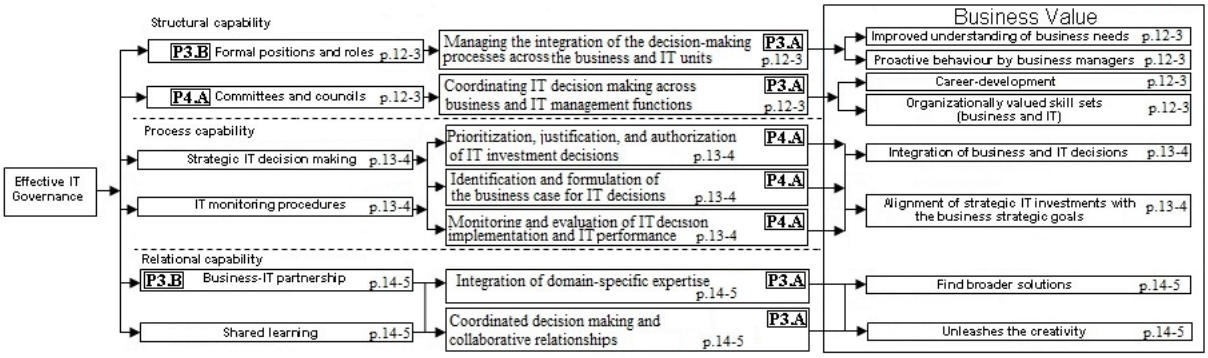

Figure 5 - Modelling Peterson's (2004) discussion

Peterson (2004) argues that IT governance's structural, process, and relational capabilities direct and coordinate versatile actions related to the planning, arrangement, and control of IT (see Figure 5). Both the allocation of formal IT decision-making authority and the coordination of IT decision-making expertise in mid / operational levels (Schlosser and Wagner 2011) are required to eventually develop organisationally valued skill sets (business and IT), gain improved understanding of business needs and align strategic IT investments with the business strategic objectives (Peterson 2004). How the direct outcomes of effective IT governance are achieved (in Peterson's model) is not explained in detail though. This insight may be concluded as the following proposition:

Proposition Three-B: Clarity of accountability and responsibility in mid/operational levels will help effective IT governance lead in turn to more business value returned from IT investments.

(d) The How Dimension and Applicability of IT Governance Mechanisms (P4.A & P4.B)

As defined in Table 4, *Applicability of mechanisms* is "Well-designed means of implementing the IT Governance arrangements that lead IT managers and suppliers to assemble business–IT integrated plans, assign responsibilities and accountabilities, define IT priorities, consider business needs, and measure and monitor their performance". The mechanisms (i.e., the ways and means) for making IT related decisions (the 'How' dimension) need to be understood and supported across the enterprise. Having effective IT governance in place, only IT projects in support of business goals and likely to achieve success will be undertaken and assigned resources (Broadbent and Kitzis 2005). This means more applicable mechanisms are implemented across the enterprise. Some mechanisms (the 'How' dimension) deal with several types of decisions e.g., the executive committee who makes principal decisions and certain investment decisions; and some mechanisms deal with mainly one type of decision, e.g., the architecture committee who makes architecture decisions (Weill and Ross 2004). Since the 'How' dimension is so important in implementing applicable IT governance mechanisms, it is propositioned that:

Proposition Four-A: A clearer 'How' dimension in effective IT governance will lead to the more applicable IT governance mechanisms.

Figure 6 – Modelling Korac-Kakabadse and Kakabadse's (2001) discussion

As presented in Figure 6, Korac-Kakabadse and Kakabadse (2001) claim that a) guaranteeing that IT supports business objectives, b) making the best use of investments made in IT, and c) evaluating IT-related risks and opportunities properly are the outcomes of effective IT governance which happen by applicable mechanisms; Mechanisms like approving resource-allocation decisions, applying IS/IT skills, guaranteeing security, reliability of strategic information, protecting IT investments, applying proper safeguards to corporation's information assets, reacting appropriately against monopolistic manners of IS/IT providers and finally activating IS/IT

ethical standards (Korac-Kakabadse and Kakabadse 2001). The insight above is summarised in the following proposition:

Proposition Four-B: Applicability of IT governance mechanisms will help effective IT governance lead in turn to more business value returned from IT investments.

IMPLICATIONS AND CONCLUSION

Since both claimed benefits of effective IT governance and the reasoning of why-how they are achieved are contingent on the definition of effective IT governance, as the first contribution of this paper, "Effective IT governance" arrangements is systematically defined as the *soundness* of business IT decisions (as explained in Table 2 before) with respect to each of the three dimensions of IT governance. According to the literature, the three dimensions of IT governance are: a) in what domain(s) the decision-making process will be involved, b) who makes the decisions and who has input to those decisions, and c) how, i.e., through what mechanisms, these decisions should be made and supervised.

Based on the literature, as the second contribution, the most common benefits of effective IT governance are identified as 1) strategic alignment between IT and enterprise objectives, 2) protecting the enterprise's investment in IT, 3) taking advantage of current business opportunities, and 4) avoiding potential business threats.

To clarify the third contribution, this paper provides a clearer understanding of the mechanisms through which effective IT governance leads to greater organisational benefits by synthesising the best that is known in the literature. A new integrative model (EITGBV) is presented and seven propositions are developed as a result of synthesis and modelling prior explanations. We argue that a) this model is more comprehensive than previous explanations because it covers all the three dimensions of IT governance discussed in the literature (What, Who and How), b) this model is simpler, i.e. more parsimonious than the previous models, and c) as explained in detail above, although some authors have provided complex explanations, not all are completely correct.

Going one step further, the next knowledge gap is whether the above claimed benefits of effective IT governance are valid and whether they are the most important ones. The primary contribution a future study could make is to seek empirical evidence to validate the claimed benefits. Also, developing a better understanding of the underlying mechanisms of why-how effective IT governance leads to business value from IT investments by empirically validating the developed propositions using multiple in-depth case studies would help to enhance the existing knowledgebase. Finally, investigating to see if there is any priority among dimensions of IT governance or any direct link between them and any particular business value, or if there is any other moderator(s) affecting effective IT governance leading to business value could also enhance the knowledge and direct the future research in this area.

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