

# IT Value Proposition in IT Strategy Maps

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## ABSTRACT

IT Balanced Scorecard (IT BSC) and IT Strategy Maps (IT SM), both descendants of Balanced Scorecard (BSC) and Strategy Maps (SM), are tools to help IT managers cope with those problems. It helps managers to show value of, communicate how IT contributes to the organization performance, and also coordinate activities within the IT organization. However, currently the development of IT SM literatures lags far behind the business SM counterparts. Although the business SM already has a solid foundation for describing the customer value proposition on the SM, it is not quite the case with the IT SM. Based on literary study and empirical case studies on several organizations, in this paper we explore the possibilities of how IT value proposition can be described within the IT SM.

**Keywords:** IT Balanced Scorecard, IT Strategy Maps, IT Value Proposition, IS/IT Strategy.

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## 1. BACKGROUND

### 1.1 Balanced Scorecard and Strategy Maps

In the field of management, 1992 Robert Kaplan and David Norton presented their first idea of balanced scorecard, as a tool to measure the performance of an organization. In essence, they argue that financial measures are not the only performance indicators to assert the healthiness of a company. To assure sustainable long-term performance, other perspectives such as customer, internal process and company's learning & growth perspectives must also be measured. It turns out that balanced scorecard is not only a performance measurement system, but in their book *The Balanced Scorecard* (Kaplan & Norton, 1996), they also showed that it is also a new strategic performance management system which includes *planning, execution and monitoring* phases.

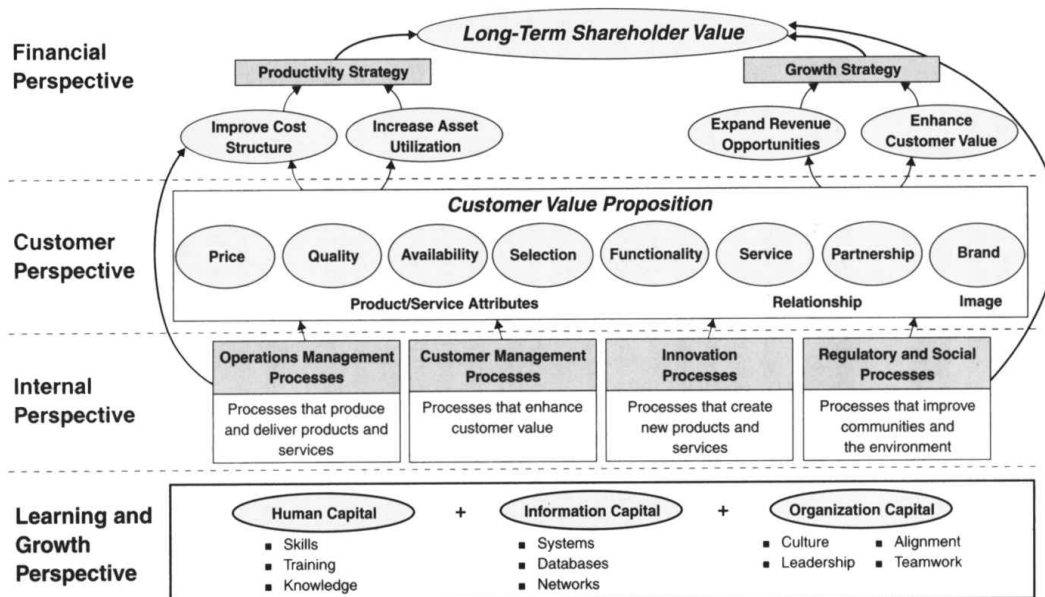


Figure 1. Strategy Maps Template (Kaplan & Norton, 2004)

Kaplan and Norton subsequently learned that to achieve breakthrough performance, organizations that used Balanced Scorecard needs to *align* and *focus*. It allowed organization to align their resources (executive teams, business units, support groups, information technology, and employee recruitment & training) to focus intensively on implementing their strategies, as documented in their book *The Strategy Focused Organization* (Kaplan & Norton, 2001).

One of the key concepts in their second book is the concept of *strategy maps* previously introduced by them in a *Harvard Business Review* publication (Kaplan & Norton, 2000). The concept of strategy maps came after they saw managers that uses BSC, intuitively *draw* cause-effect relationships among strategic objectives within Bess's perspectives. Strategy maps helps organization to align the strategic direction of the organization with the execution of the strategy, in other words, it helps executives to *manage* their strategy better. It is also visually appealing to managers, because now everyone sees where and how they contribute to the organization performance.

## 1.2 Customer Value Proposition

As Kaplan & Norton (2001) give describe, the core of any business strategy is the "value proposition" delivered to the customers (see figure 1). It describes the unique mix of product, price, service, relationship and image that the provider to its customers. A clearly stated value proposition provides the ultimate target on which the strategic themes of critical internal business process and *infrastructures* are focused through a cause effect relationship.

The value proposition is represented in the customer perspective in the BSC, and they found that it fits nicely with Treacy and Wiersma (1993) theory of how companies command market leadership. They found three patterns:

- a. Product leadership: "...pushes its products into the realm of the unknown, the untried, or the highly desirable."
- b. Customer intimacy: "... builds bonds with its customers, it knows the people it sells to and the products and services it needs."
- c. Operational excellence: "... deliver a combination of quality, price and ease of purchase that no one else can match."

Note how these generic strategy concepts maps into strategy maps, and see how different aspects of value proposition become more crucial depending on the strategy. Please be reminded that in formulating the customer value proposition, one must remember that *order qualifiers* – the minimal requirement for a company to enter a certain market – must also be taken account. For

example, in P.T.<sup>1</sup> Industrial EPC., , procurement and construction company we studied during the research, low cost is the basic requirement for all vendors to enter a bid to construct a factory. But P.T. Industrial EPC also differentiated from its competitors by strengthen its *order winners*, which are total customer solutions, on-time delivery and strict conformance to hazard, safety, disaster and accident rules.

The value proposition itself is translated into the strategy maps' through strategic themes, reflected in objectives the internal perspective and learning & growth perspectives. Strategic themes reflect what the management believes must be done to succeed. It reflects the executives' view of what must be done internally to achieve the strategic outcomes that the company wants to achieve.

## 1.3 Short History of IT BSC

The balanced scorecard can be applied to the IT function and its processes as Gold (1992, 1994) and Willcocks (1995) have conceptually described and has been further developed by Van Grembergen and Van Bruggen (1997) and Van Grembergen and Timmerman (1998). In a later paper, Van Grembergen (2000) demonstrated that (a) the Balanced Scorecard can provide a measurement and management system that supports the IT governance process and the (b) business scorecard can be cascaded to IT Balanced Scorecard, and further cascaded into IT development scorecard and IT operations scorecard. Based on Van Grembergen and Van Bruggen's IT BSC, Saull (2000) published his experience implementing the IT BSC at a Canadian financial company, which became the first real-world application of IT BSC.

However apparently Van Grembergen's idea and also Keyes (2005) of IT Balanced Scorecard have not reflected latest changes in balanced scorecard theories. Although van Grembergen had already presented the same idea of cause-effect relationships within the scorecards, he did not describe clearly the alignment of perspectives of his versions of IT Balanced Scorecard, and also did not mention strategic themes that drive the alignment of the scorecards. When Van Grembergen and Saull (2001) reported again their IT BSC progress at the Canadian financial company, the still did not explicitly mention 'themes', however one with an understanding of strategic themes can extract the themes from the case study.

The next advancement of IT Scorecard concept was again introduced by Gold (2002, 2003) - a fellow of

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<sup>1</sup> P.T. stands for *Perseroan Terbatas*, roughly equivalent to the American term for Limited Liability Company (LLC)

Kaplan & Norton at Balanced Scorecard Collaborative - right after the launch of *Strategy Focused Organization*. Gold wrote what might be considered the first strategy maps for IT Organization (ITO) Scorecard Strategy Maps. Soon, Norton adapted Gold's idea and went into print in CIO Insight (2004). This work in turn was again mentioned again by Symons (2005) of Forrester Research.

In Kaplan & Norton latest book, *Alignment* (2006), they presented IT Organization Strategy Maps, which is largely based on Gold's ITO Scorecard Strategy Maps with a very few adjustments. Notable additions are the integration of Strategic IT Service Portfolio concept first introduced in *Strategy Maps* (2004), reintroduction of linkage scorecard (first presented in *Strategy Focused Organization*) and also the possibility to cascade the ITO strategy maps to units within the IT Organization (such as planning function, help desk function, maintenance function, etc.).

## 2. PROBLEM

Kaplan & Norton since 2001 has introduced the concept of strategic themes derived from customer value proposition in their strategy maps. We found that there are no tools for developing IT strategic themes equivalent or even analogous to corporate/business strategy maps' themes that are derived from customer value proposition model such that of Treacy & Wiersma (1993), Delta Model of Hax & Wilde (1999), or Blue Ocean (Kim & Mauborgne, 2005).

In this research, we explore several approaches to construct the IT value proposition and also the IT strategic

themes in the IT strategy maps model.

## 3. METHODOLOGY

This paper is based on the researches led by the author under IT Governance Lab, Faculty of Computer Science, University of Indonesia. It consisted of several case studies conducted by author's graduate students. It was an explorative and qualitative research, because we want to find new ideas in the IT BSC / IT SM family of theories. The researches were conducted during May – December 2006. There were 5 IT SM case studies in this batch of research: Ministry of Marine & Fishery, Directorate General of Customs & Excise, an engineering procurement company (P.T. Industrial EPC), and a metering instrument manufacturing company (P.T. Electric Meter). We intentionally cover up the names of limited liability companies (P.T.) to protect the anonymity of the unit of analysis.

The case studies research design was carefully designed by the author. The case study research observation guide and the interview guide were developed based on IT BSC / IT SM of Kaplan & Norton (2006), Van Grembergen (2000), and some additional questions from Weill & Ross (2004). Data were then collected by the graduate students. The author then reviewed and qualitatively analyzed the data with the students. At the end of the research, we held a workshop to extract the case studies.

During the workshop, each graduate student presented their case studies, and whenever there are new discoveries or possibilities, we immediately write it down. We have

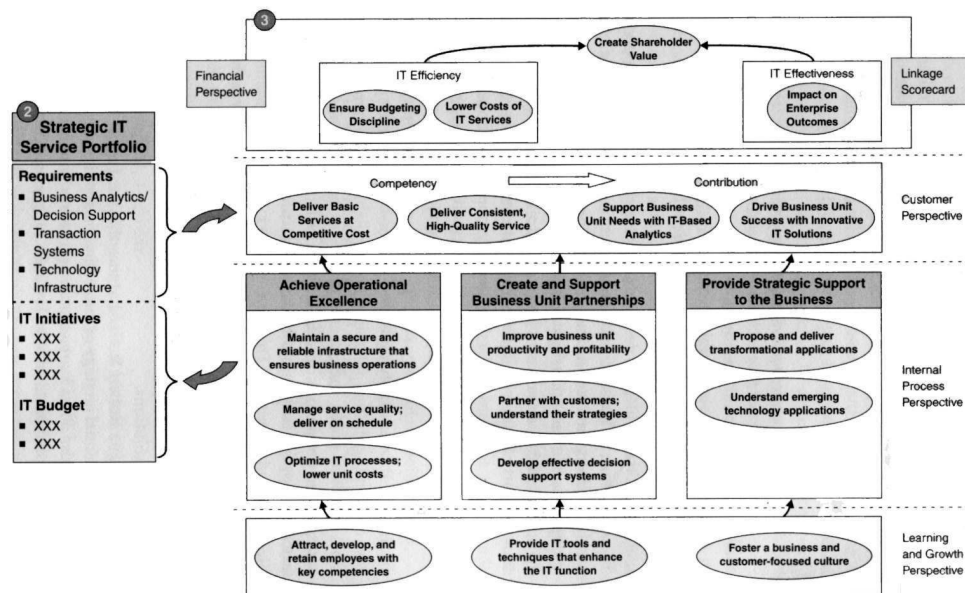


Figure 2. Kaplan & Norton's (2006) IT Organization Strategy Maps

found some very interesting results of how IT value proposition can be developed in the context of IT SM.

While we also uncover many new discoveries during our study, for example the use of COBIT IT process in the operational perspectives of IT SM, the shape of the IT SM itself (reflecting the paradigm), the IT strategic themes, and others, in this paper we only show one of the results, namely the IT value propositions.

#### 4. ANALYSIS

First, and most obvious, while Kaplan & Norton (2004) did not mention IT value proposition in their Strategic Information Capital (renamed Strategic IT Service Portfolio in 2006), but applications that spring from the Strategic IT Service Portfolio matrix *are* the value propositions of the IT for the organization/business. It directly addresses the business scorecard needs of applications. Because a strategic objective will not make it to the corporate/business SM/BSC unless it is important for the organization, then the application (along with the information processed therein) needed to support each strategic objective may also be important for the organization. In other words, value of IT emerges from the applications that support its business process.

We then found that we can detail out, for *each business unit*, their respective IT Service Portfolio. The applications (or modules) that emerge from their respective IT Service Portfolio matrix provide the value of IT.

On the other hand, we still have to observe the IT SM financial perspective (or business contribution perspective in van Grembergen's term) and also customer perspective (or user orientation in van Grembergen's term), since originally we thought that the IT value proposition must come from these perspectives.

If we assume that IT organization is a *shared service unit (SSU)* – i.e. a unit within a company that serves other units, especially strategic business units (SBUs), then as Kaplan & Norton (2001) showed, the some of SBU's strategic objectives in the financial and customer perspective can be linked down to the financial and customer perspective of the SSU (for example, marketing targets). Therefore, it is possible if an IT organization wants to have some 'acknowledgement' or 'appreciation' from SBUs, and if the managers sees IT as the prime enabler for the SBU's target be achieved, then using a *linkage scorecard*, the SBU's strategic outcomes can be included in the IT scorecard. We can argue that through the linkage scorecard, the IT organization brings its value.

Now, what we discover in the case study at General Directorate of Customs & Excise (GDCE) is that the General Director responsibility to collect duty can be linked down to Directorate of Information, since it is nearly impossible nowadays to collect duty and process the financial information for reporting to the Finance Minister without computers. We define the strategic objective of the organization being delegated to its inferior ordinates (not a shared service unit) in a term we coined '*delegation scorecard*'. The Directorate of Information

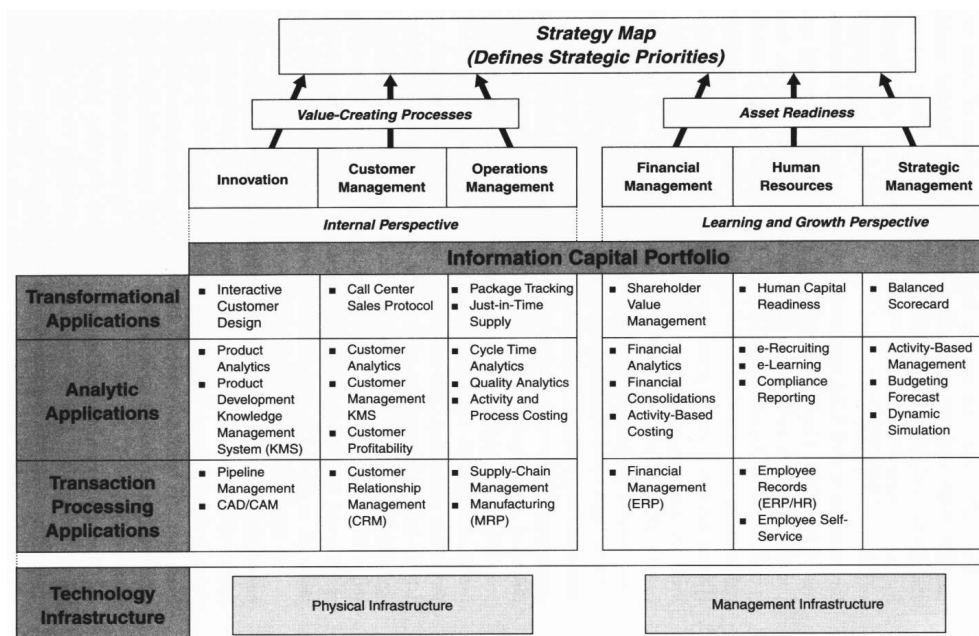


Figure 3. Kaplan & Norton's (2004) Strategic Information Capital example, subsequently renamed Strategic IT Services Portfolio in Kaplan & Norton (2006)

value is that it enables GDCE to collect and report the duties.

In several of our cases we also acknowledge that Gold's model for customer's perspective as explained by Kaplan & Norton (2006) is quite applicable. Gold argues that typical IT organization follows a sequential strategy of successively satisfying business hierarchical needs. The IT organization starts by demonstrating its competency in delivering consistent, reliable and low cost basic service. Only then, the IT organization earns the right to develop capabilities to build alliance with business units by offering applications to support business unit strategies. The highest level of IT value is when IT customizes emerging technologies to position the business unit for distinctive competitive advantage. Gold (2003) used this model for his T. Rowe Price Investment Technologies IT organization BSC.

In three out of five of our cases, where IT organization has not matured enough, basic service dominates the IT value proposition, reflected in their customer perspective of their IT SM.

We also discovered another way to write down the IT value proposition by simply placing the IT organization's official duty, accountability and responsibility as the strategic objectives in the customer perspective of the IT SM. Very simple, but we believe this approach is still valid, although we need to select which ones are applicable for the customer perspective, and which ones are for the other perspectives.

If we assume that the researcher is only the observing the research subject, in one of our case study, just by interviewing key business unit managers, and discussion with the corporate planner, we are able construct the what are their *expectations* from IT organization. We simply put the expectations into the strategic objectives in the customer perspective of the IT SM. We consider this expectation is the value proposition of IT for the organization.

Previously during the very early stage of the research, the author devised a strategy map template where the customer perspective consists of information criteria from COBIT (IT Governance Institute, 2005). As we know, to achieve business objectives, information needs to conform to certain control criteria, which COBIT refers to as business requirements of information. The information criteria are defined as follows: effectiveness, efficiency, confidentiality, integrity, compliance and reliability. We did find that some wordings that emerge from the case studies use adjectives to explain a noun or a concept. For example, many organizations would want a reliable basic service. But notice that the templates for business customer value propositions are nouns, not adjectives. As a matter of fact, in COBIT, we will also find information resources – i.e. applications, information, infrastructure and people. We argue that *combination of information resource and information requirement* may be the basic

foundation of the customer perspective for IT SM template.

While literatures on strategy emphasizes more on efficiency and effectiveness, we did recognize that in certain industry, compliance to certain standards is mandatory, and business depends on its capability to at least meet the regulations in place. For example, airline and construction companies must abide safety regulations. In banking industry, not only banks must comply to central bank regulations, it also need to calculate its risk profile. Therefore if IT can support the organization to keep up with the regulations (by opting for a modular IS/IT design to allow rapid changes of business rules), and also help the organization to minimize risk (by using risk management tool for example), then we argue that those support is one of the value proposition of IT.

An interesting development came from Van Grembergen, De Haes and Moons (2005), which then the idea was incorporated into COBIT 4.0 (IT Governance Institute, 2005). They conducted interviews managers at eight different industries in Belgium to capture the link between business goals and the IT goals, then cascade it down again to the 15 most important COBIT IT processes. Interestingly enough, they use BSC perspectives to place the business goals. While they did not use IT BSC, we argue that several IT goals related to each business goals can be considered as the IT value proposition, worth placing them as strategic objectives in the customer perspective of IT SM.

One of our case study uses a somewhat a modified model of ITO Strategy Maps. Kaplan & Norton (2001) also showed a case of 'business-in-business' model of a shared service unit (SSU). The business-in-business model, actually allows business units to procure their needs from outside the organization. Therefore, the IT organization, as an SSU, has to compete with other possible external IT providers.

Although not of our interest here, they showed that it is possible to construct an IT strategy map without the need having the business BSC or SM in the first place. This technique, of course, is also applicable to non business-in-business model, for example in one of our case the IT organization as a service centre unit supporting other functional units. There is a caveat though, using this approach to develop IT SM, we *cannot* develop the corresponding Strategic IT Service Portfolio matrix (the most obvious IT value proposition), because we do not have the business BSC/SM.

## 5. CONCLUSION & FURTHER STUDY

To recap our discussion, we have collected and uncover ideas from literary study and empirical case studies, of what might be considered as 'IT value proposition'.

Among them are (not exclusive, overlaps are very much possible):

1. Strategic IT service portfolio matrix
2. Business unit IT service portfolio matrix
3. Strategic objectives in the linkage scorecard
4. Strategic objectives in the delegation scorecard (a new term that we coined).
5. Gold's template of customer perspective in his ITO strategy maps.
6. Simply asking the business managers what are their expectations from the IT organization in their company. Gold (2003) also used interviews to construct ITO Scorecard for his case study.
7. Using the COBIT information resource and information requirement as the basic template developing it
8. The competitive strategy, the compliance aspect and the risk profile that shapes *how* IT should support the company
9. The concept of IT Goals (except the financial ones) introduced in COBIT 4.0 and Van Grembergen, De Haes and Moons' (2005) article. As a matter of fact, item number 6 is basically what Van Grembergen, De Haes and Moons (2005) did to build the business goal to IT process linkage.

From these findings, we will use them to amend the case study data collection guide and also the guide for data analysis. It will then be used for further case study research, yet to improve the IT strategy maps model.

Drawing and describing the IT strategy using IT strategy maps is still in its infancy. Some say, it is more of an art than a true science. It is an art of capturing what people thinks and the art of putting those ideas into paper. What's the point? The point is, with IT SM, now IT managers, business managers, functional managers, senior executives and IT staffs can communicate easily with a diagram on a piece of paper. But again, uhm, communication is also an art, right?

## REFERENCE

- Gold, Robert S., 'Building the IT Organization Balanced Scorecard', in *Information Systems Control Journal*, Vol.5, 2003
- Hax, Arnoldo C, and Dean L. Wilde II, 'The Delta Model: Adaptive Management for a Changing World' in *Sloan Management Review*; Winter 1999;
- IT Governance Institute, 'COBIT 4.0', available at <http://www.itgi.org>, 2005.
- Kaplan, R. and Norton, D. 'The balanced scorecard — measures that drive performance', in *Harvard Business Review*. January-February 1992, pp. 71-79.
- Kaplan, Robert S. & David P. Norton, *Balanced Scorecard — Translating Strategy into Action*, Harvard Business School Press, 1996.
- Kaplan, R. and Norton, D. 'Having Trouble with Your Strategy — Then Map It', in *Harvard Business Review*. September – October 2000, pp. 167-176.
- Kaplan, Robert S. & David P. Norton, *The Strategy Focused Organization—How Balanced Scorecard Companies Thrive in the New Business Environment*, Harvard Business School Press, 2001.
- Kaplan, Robert S. & David P. Norton, *Strategy Maps — Converting Intangible Assets into Tangible Outcomes*, Harvard Business School Press, 2004.
- Kaplan, Robert S. & David P. Norton, *Alignment — Using the Balanced Scorecard to Create Corporate Synergies*, Harvard Business School Press, 2006.
- Keyes, Jessica, *Implementing the IT Balanced Scorecard*, Auerbach Publications, Boca Raton, Florida, 2005.
- Kim, W. Chan and Renée Mauborgne, *Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant*. Harvard Business School Press, Boston, Massachusetts 2005.
- Norton, David, 'Whiteboard: Strategy Maps', in *CIO Insight*, available at <http://www.cioinsight.com/article2/0,1397,1375257,00.asp>, 2003.
- Saull, Ronald, 'The IT Balanced Scorecard — A Roadmap to Effective Governance of a Shared Services IT Organization' in *Information Systems Control Journal*, Vol.2, 2000
- Treacy, M. and F. Wiersma, 'Customer intimacy and other value disciplines' in *Harvard Business Review*, January-February 1993.
- Van Grembergen, W. and Timmerman, D. 'Monitoring the IT process through the balanced scorecard,' *Proceedings of the 9th Information Resources Management (IRMA) International Conference*, Boston, May 1998, pp. 105-116.
- Van Grembergen, W. and Van Bruggen, R. 'Measuring and improving corporate information technology through the balanced scorecard technique,' in *Proceedings of the Fourth European Conference on the Evaluation of Information Technology*, Delft, October 1997, pp. 163-171.
- Van Grembergen, W., 'The Balanced Scorecard and IT Governance', in *Information Systems Control Journal*, Vol.2, 2000.
- Van Grembergen, W., Steven De Haes and Jan Moons, 'Linking Business Goals to IT Goals and COBIT Processes', in *Information Systems Control Journal*, Vol.4, 2005.
- Weill, P. and J. Ross, *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results*, Harvard Business School Press, Boston, 2004.