

# Developing & Describing IT Value Using IT Strategy Maps & IT Balanced Scorecard

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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 to show value of IT, 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 Kaplan & Norton (2001) has introduced the concept of client value proposition in IT Strategy Maps, equivalent to customer value proposition, we believe there are many other ways to describe IT value in IT BSC/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.*

## 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 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. Kaplan and Norton subsequently learned that to achieve breakthrough performance, organizations that used Balanced Scorecard needs to *align* and *focus* (Kaplan & Norton 2000, Kaplan & Norton 2001). The concept of *strategy maps* in their second BSC book came after they saw managers that uses BSC, intuitively *draw* cause-effect relationships among strategic objectives. 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) three patterns of generic strategies of how companies command market leadership:

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

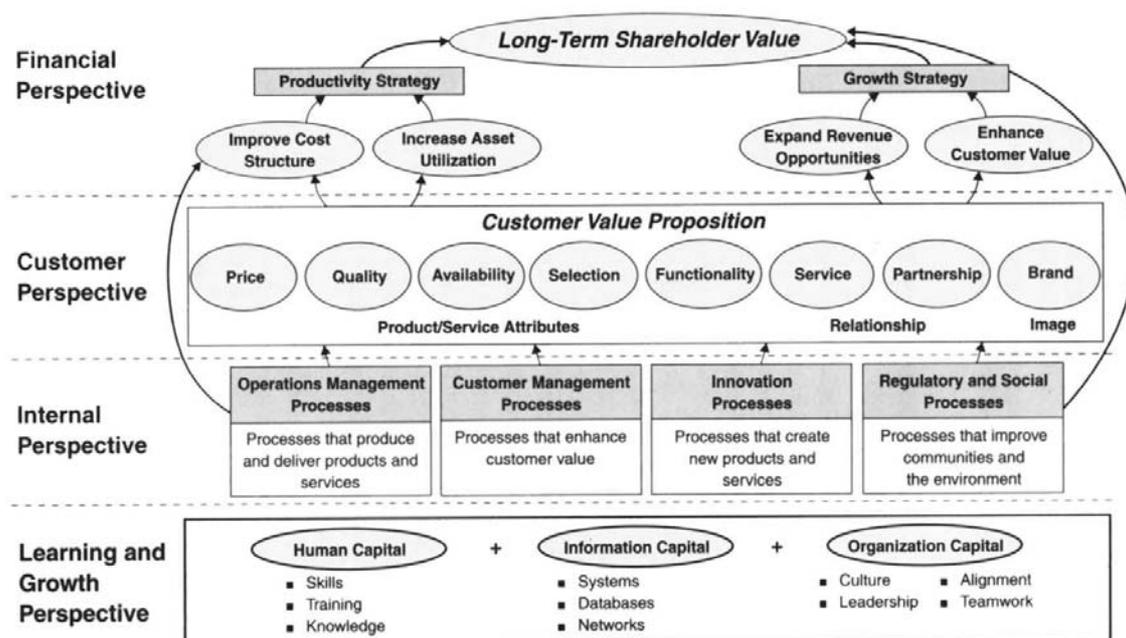


Figure 1. The latest version of Strategy Maps template (Kaplan & Norton, 2004)

Different aspects of value proposition become more crucial depending on the strategy. In formulating the customer value proposition, one must also 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., a 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.

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

### 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. 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 nor the strategic themes that drives 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 first IT Strategy Maps was introduced by Kaplan & Norton (2001) with a case study at the IT unit of Financial Services Company. It already has what they call *client value proposition* within the IT Strategy Maps. The client value proposition is divided into basic objectives and differentiated objectives specific to the needs of the internal clients. Gold (2003) extended their IT Strategy Maps by conceptualizing the IT Organization (ITO) Scorecard Strategy Maps. Soon, Norton readopted 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 (see figure 2), which is largely based on Gold’s ITO Scorecard Strategy Maps with a few adjustments. Notable additions are the integration of Strategic IT Service Portfolio concept first

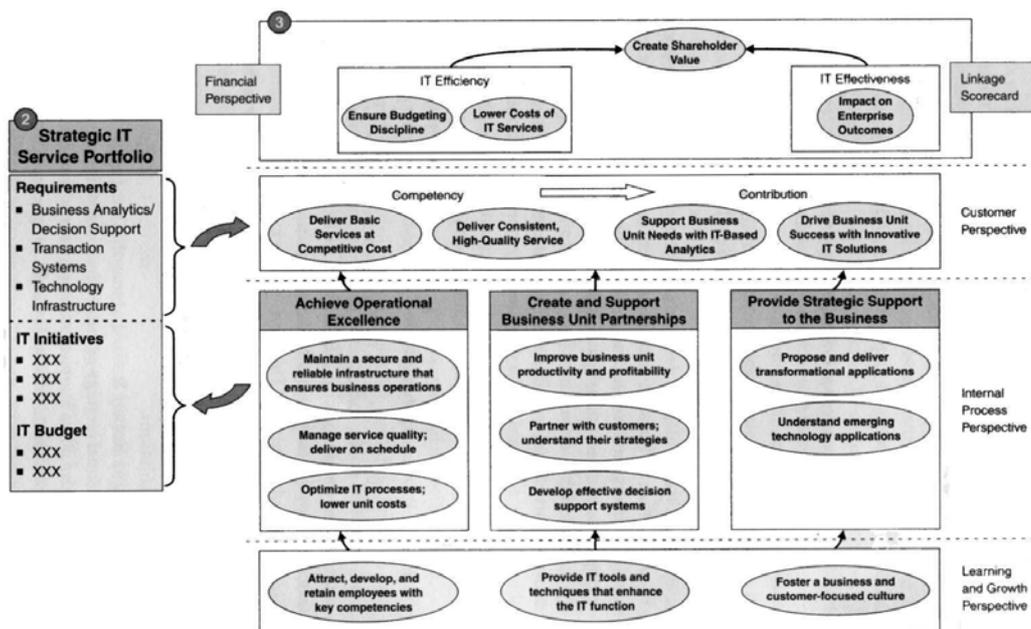


Figure 2. Kaplan & Norton’s (2006) IT Organization Strategy Maps Template

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. Significance of the study

Kaplan & Norton since 2001 has introduced the concept of customer value proposition and client value proposition in their IT strategy maps. It is imperative that we understand the value proposition of IT organization before we move on to explore deeper into IT SM, because having a value is the primary reason why the IT organization should exist after all. It also defines the IT strategic themes, i.e. what must internally should be done within the IT organization to deliver the promised value.

However, we argue that it is not the only value that might be described using IT Strategy Maps and IT Balanced Scorecard. In this research, we explore several approaches to describe the value of IT organization using IT BSC / IT SM.

In this paper, similar to original term, we intentionally simplify the term IT Organization Strategy Maps into IT Strategy Maps, thus making those terms equivalent and interchangeable.

## 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, Banten Provincial Government, 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). The graduate students then collected data. The author then reviewed and qualitatively analyzed the data with the students. During the interaction between the research subject, the data collector (students) and the author, variations were allowed to fit the IT SM contextually for each research subject. At the end of the research, we held a workshop to extract findings and even new hypothesis from the case studies.

While we also uncovered 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. Discussion

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 (see figure 3). 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 is important for the organization. Unlike Kaplan & Norton's (2001) client value proposition, we argue that value proposition of IT primarily emerges from the applications that support its business processes.

We then found that we could detail out, for *each business unit scorecards*, their respective IT Service Portfolio. The applications (or modules) that emerge from their respective IT Service Portfolio matrix provide the value of IT. Case study at P.T. Industrial EPC used this approach to populate their business unit's application needs. Same thing can also be done for each *functional unit*

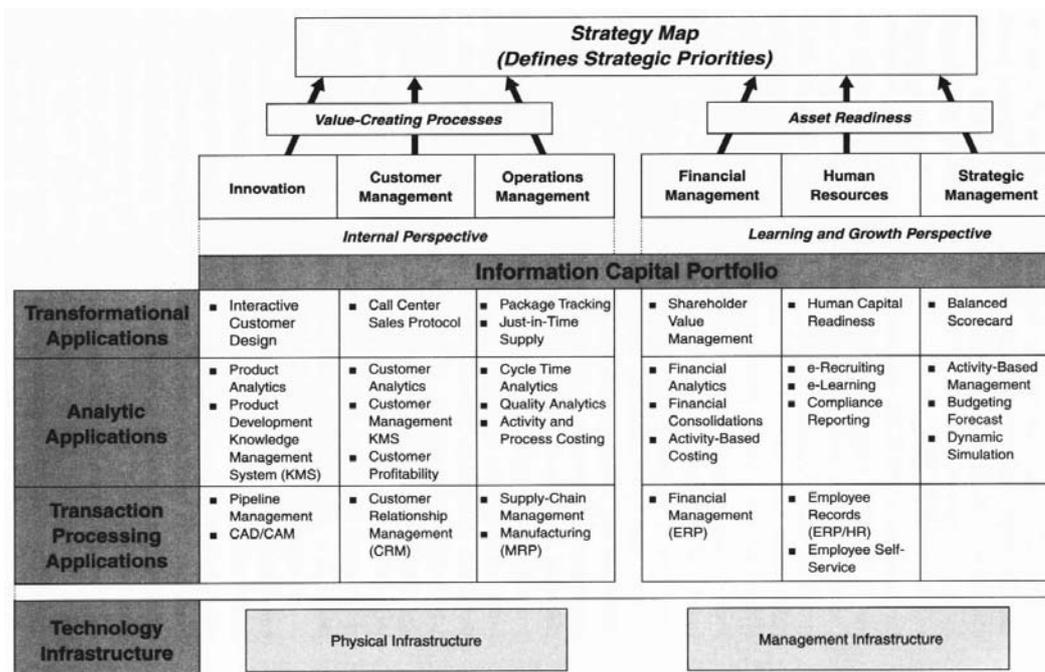


Figure 3. Kaplan & Norton's (2004) Strategic Information Capital example, subsequently renamed Strategic IT Services Portfolio in Kaplan & Norton (2006)

scorecards.

If we agree that applications are the value propositions of IT, then it is worth to note Ward's (2003) technique to construct a comprehensive set of IS needs. By using measures from the strategic objectives of BSC's perspectives and CSF analysis, it is possible to develop complete application requirements to support the strategic objectives.

On the other hand, we also had to examine 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 earlier 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, e-commerce

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 discovered in the case study at General Office of Customs & Excise (GDCE) is that the General Director responsibility to collect duty can be linked down to Office of Customs & Excise Information (structurally located one level directly under the General Director of Customs & Excise), 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 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. It is 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.

In one of our case study, just by interviewing key business unit managers, and discussion with the corporate planner, we were able construct 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 propose 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 (e.g. by opting for a modular IS/IT design to allow rapid changes of business rules), and also help the organization to minimize risk (e.g. by using a risk analysis & monitoring application), 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 not just to business-in-business model. For example at Banten Provincial Government, the IT organization works 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 apparent IT value proposition), because we do not have the business BSC/SM.

## 5. Conclusion

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' and how to describe them. Among them are:

1. Kaplan & Norton's (2001) client value proposition
2. Strategic IT service portfolio matrix
3. Business unit IT service portfolio matrix
4. Functional unit IT service portfolio matrix
5. Ward's (2003) IS needs based on BSC-CSF.
6. Strategic objectives in the linkage scorecard
7. Strategic objectives in the delegation scorecard (a new term that we coined).
8. Gold's (2003) template of customer perspective in his ITO strategy maps.
9. Simply asking the business managers what are their expectations from the IT organization in their company.
10. Using the COBIT information resource and information requirement as the basic template developing IT value proposition.
11. The competitive strategy, the compliance aspect and the risk profile that shapes *how* IT should support the company

12. The concept of IT Goals (except the financial ones) introduced in COBIT 4.0 and Van Grembergen, De Haes and Moons' (2005) article.

From these findings, we will use them to amend the data collection guide and also the guide for data analysis. It will then be used for the second batch case study research, yet to improve the IT strategy maps model. Another interesting research opportunity in this area is to find the correlation between customer value proposition and IT client value proposition with a large sample survey.

## 5. Acknowledgement

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