

EXTENT OF BALANCED SCORECARD MEASURES USAGE IN
RELATIONSHIP WITH ORGANIZATION SIZE AND MARKET
FACTORS: IMPACT ON ORGANIZATION PERFORMANCE

By

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Research report in partial fulfillment of the requirements for the
degree of Masters of Business Administration

May, 2002

ACKNOWLEDGEMENT

My sincere appreciation and heartfelt thanks to Dr Fauziah Md. Taib, for her invaluable advises, patience, guidance and encouragement, in helping me to complete this research project. To Dr Yuserrie Zainuddin my co-supervisor, for his valuable advice.

My heartfelt thanks to my MBA classmates, Mr. S.Kumaresan and Mr. HL Lew for their support and excellent team works the past three years. To Agilent Technologies Worldwide Cost Accounting Controller Mr. Mark Orton, my manager Mr. Larry Medina, my direct reports Miss Ong Pei Ching, Puan Nazly Noor, Miss Ong Huei Shean and all my WWCA team members, my colleagues and my good friend Mr. Seow Chai Huat for their encouragement and moral support.

To my dear mother, parents-in- laws, my brothers and sisters, nieces and nephews for their understanding and encouragement.

Most of all, to my loving wife, Siew Foong for her love, patience, understanding and inspiration throughout my course of study.

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ABSTRAK

Kajian in bertujuan untuk mengkaji hubungan antara penggunaan carta keseimbangan prestasi dengan saiz organisasi, kitaran pengeluaran dan kekuatan posisi pemasaran. Kajian in juga bertujuan untuk mengkaji kesan carta keseimbangan ke atas prestasi organisasi. Berdasarkan kepada maklumat yang diperoleh daripada 86 syarikat pengeluaran yang kini beroperasi di negeri di Utara Semenanjung Malaysia, keputusan kajian menunjukkan bahawa organisasi yang bersaiz lebih besar dan perniagaan yang mempunyai produk pada peringkat awal kitaran pengeluaran, menggunakan lebih banyak pengukur carta keseimbangan prestasi. Walau bagaimanapun, kekuatan posisi pemasaran tidak menunjukkan hubungan positif dengan penggunaan carta keseimbangan prestasi. Tahap penggunaan carta keseimbangan mempunyai hubungan positif dengan prestasi organisasi. Keputusan kajian menunjukkan bahawa tahap penggunaan carta keseimbangan merupakan penengah penuh kepada kesan organisasi bersaiz besar, kitaran pengeluaran yang awal dan kekuatan posisi pemasaran ke atas prestasi organisasi.

ABSTRACT

This research was conducted to study the relationship between the balanced scorecard usage in relationship with organization size, product life cycle stage and market strength position. It was also intended to study the impact of balance scorecard usage on organization performance. Based on information collected from 86 manufacturing companies operating in the Northern States of Malaysia, the results of the research suggest that organization size and businesses with early product life cycle stage use more balanced scorecard measures. However, there is no direct positive relationship between market strength position and balanced scorecard usage. Results also indicate that the extent of balanced scorecard usage has positive relationship with organization performance. The intervening variable, extent of balanced scorecard usage is a full mediator between the independent variables of larger organization, early product life cycle stage and strong market position, and the dependent variable of organization performance.

Chapter 1

INTRODUCTION

“The Balanced Scorecard is like the dials in an airplane cockpit: it provides complex information related to the current and predicted environment necessary for pilot to fly and navigate the airplane”

-Robert S.Kaplan & David P.Norton

1.1 Introduction

Operating a company in today’s business environment is tough. Managers need effective tools and system to help them set action plans to achieve organization’s financial and strategic goals (Morrisey, 1997). In order to compete effectively in the highly competitive information-based global environment, organizations strive constantly to transform themselves by experimenting with and adopting a variety of improvement initiatives. These include total quality management, just in-time systems, corporate restructuring, corporate re-engineering, activity based management, core competencies and others. However, organization frequently rely primary on “uni-dimensional” financial accounting measures to evaluate results of initiatives adopted (Kaplan & Norton, 1996a).

Kaplan and Norton (1992) developed the Balanced Scorecard (BSC) to complement traditional financial measures of business unit performance. BSC also known as Balanced Performance Measurement System, is a set of quantifiable business measurements derived from organization strategies, goals and objectives. Taken together, they communicate the direction an organization must take to meet its strategic goals. As a bonus, the scorecard helps managers take steps needed to reach goals. The key phrase in the definition is “set of measurements”. If the process

focused on only one or two measurements, it's likely the wrong corporate behavior would be encouraged. The goal of BSC is to put together a set of areas to be measured that are linked to corporate strategy (Morrissey, 1997).

A recent survey estimated 60 percent of Fortune 1000 firms have experimented with BSC (Silk, 1998). The balanced scorecard contains a diverse set of performance measures, spanning financial performance, customer relations, internal business processes, and the organization's learning and growth activities (Kaplan and Norton, 1992). This large set of measures is designed to capture the firm's desired business strategy and to include drivers of performance in all areas important to the firm (Kaplan & Norton, 1993, 1996a). Usage of BSC should improve managerial decision making by aligning performance measures with goals and strategies of the firm and its business unit (Lipe, 2000). As stated by Hoque and James (2000), there has been limited evidence outside the USA on BSC usage. Thus, this subject deserves research attention and this study will contribute to the limited body of knowledge in this area.

The problem under investigation for this study will focus on assessment of the performance measurement strategies being practiced by the manufacturing companies in the Northern region of Malaysia. This study will be focusing on understanding the linkage of BSC usage with organization size and market factors related to product life cycle stage and market strength position. And finally, to find out how these variables impact the organization performance via intervening effects of BSC measures utilization.

Hoque and James's (2000) research on 66 Australian manufacturing organizations suggests that larger firms make more use of BSC measures. In addition, firms that have a higher proportion of new products have greater tendency to make use of the BSC measures related to new products. However, a firm's market position has not been found to be associated with BSC usage. Hoque and James's (2000) paper also suggests that greater BSC measures usage is positively associated with improved performance (Hoque & James, 2000). Hence from here, we are able to conclude that the size of organization and market factor especially product life cycle stage influence the extent of BSC usage. Based on the results of the past research, we also understand that BSC will enhance organizational performance.

Basically, this research model is similar to the one conducted by Hoque and James (2000). Hence, a similar conceptual set of questionnaire with adjustment per the Malaysian business environment context was used to conduct a primary research to investigate if the Malaysian companies would provide the same results on the extent BSC measures usage in relationship with the size of organizations, product life cycle and market position. Likewise, results obtained on relationship between BSC measures usage and its impact on the organization performance was also analyzed. The final outcome of this research study will serve as benchmark for the local managers to be more proactive and creative in their future business strategic plans.

1.2 Problem Statement

Randy Russel, the director of research at The BSC Collaboration in Lincoln is of the opinion that *"The BSC came to life as a measurement approach. Our research shows that measurement-focused organizations outperform less-disciplined*

competitors by 35 percent on an average three years return on investment. And the BSC approach always was conceived as leading to the day when real-time, strategic implementation would be possible”(Schatz, 2000).

BSC is not just a static list of measures. It provides multidimensional framework for describing, implementing and managing strategy at all levels of an enterprise by linking objectives, initiatives and measures to an organization’s strategy. BSC enables an enterprise view of an organization’s overall performance by integrating financial measures together with other key performance indicators and helps align complex programs for managing a strategy-focused organization. As cited in the article “The Balancing Act” by Schatz(2000), report by the BSC Collaborative Vice President, Geoffrey Fenwick that vast majority of companies apparently don’t have a clue about the tool’s usefulness. Some widely regarded studies have shown that less than 10 percent of all business organizations have been able to translate their strategies into tangible and measurable results (Schatz, 2000). Unfortunately until to date, there has been very limited study and information pertaining BSC practices in the Malaysian context.

Why are so few companies playing the measurement / management game? Firstly, it is because companies do not cope well with change. Secondly, complexity in implementing a comprehensive system that measures key areas of business performance and links long-term strategies with short term actions requires the managers to distribute proprietary information to the lowest level in the company. Thirdly, some top management has the perception that BSC is not much different from the traditional of performance measurement tool which mainly focused on the

financial measurement indicators. And finally, sometimes people just do not want to be judged (Schatz, 2000).

Manufacturing is one of the most important sectors of the Malaysia economy. About 34% of GDP of the country is contributed by the manufacturing industry during the first eight months of 2001(FMM, 2001). However, with China fast becoming one of the most important New Emerging Market in the 21st century and competition from lower labour cost ASEAN nations such as Vietnam, Thailand and Indonesia, Malaysian companies are facing more challenges to sustain competitive advantage, in the new economy. To achieve this goal, the Malaysian companies need to be more innovative and aggressive in order for them to establish sets of dynamic and multidimensional performance measurement system such as BSC that make strategy a continuous process. Ability to establish ongoing total organization operation excellence as a means to add both the tangible and intangible values to the organizations will be the critical factor determining the competitive advantage. However, prior to implementation of BSC, organizations somehow need to understand their own business needs, organization characteristics and also the current market factors exposures. In summary, the problem statement of this study is as follows:

- To what extent the organization size and market factors affect balanced scorecard implementation and also, to understand if the extent of balanced scorecard utilization playing a mediating role on the performance of organizations?

1.3 Objectives of the Study

There are four objectives for this research study. The first objective of this project is to find out the relationship between BSC usage and organization size, product life cycle stage and strength of market position. The second objective is to understand the relationship between the extent of BSC usage with organization performance. The third objective of this study will look for understanding of relationship between organization performance and the three contextual variables via the mediating effects of balanced scorecard usage. The final objective is to understand to what extent the utilization of balanced scorecard among the manufacturing companies in Northern Malaysia in relation to the organization size and market factors.

1.4 Significance of The Study

Firstly, this study helps us to understand the importance to develop a multidimensional performance management system that helps organizations to create more intangible and tangible values such as higher customer satisfaction, goodwill and higher return on investment that will ultimately improve the competitive advantage of organizations in the market.

Secondly, this study helps us to understand that in knowledge based competition, the ability to organize and develop, nurture, and mobilize their intangible assets is critical. Financial measurement alone could not capture the value creating activities from an organization's intangible assets on areas such as the skill competencies, motivation of employees; database and information technologies; efficient and responsive operating processes; innovation in products and services; customer loyalty and relationships; and political, regulatory, and societal approval (Kaplan &

Norton, 2000). Hence, a more comprehensive and dynamic way of performance measurement system such as the BSC is recommended for flexibility in strategies setting.

Thirdly, as described by Hoque and James (2000), there has been limited research on the use of BSC outside the USA. Thus, one of the objectives of this research project is to study the extent of BSC measures usage among the manufacturing organizations in Northern in relation to the organization size and market factors.

Fourthly, the project will also study the impacts of BSC utilization on the organization performance but in the Malaysian business environment context. Results obtained from the research data will be used to analyse and understand if the usage of this management tool is positively associated to the organization size, market factors and also its impacts on organization performance.

Finally, this research is mainly based on Hoque and James (2000) research model as basis to conduct the study. This is to understand if similar results will also be obtained when the research model is applied to the Malaysian business environment. Instead of using two-way ANOVA, initiative has been taken to improve the quality of data analysis through the utilization of hierarchical multiple regression analysis. This will help us to understand the role of balanced scorecard usage as mediator between the organization size, market factors and the performance of the organization.

1.5 Scope of the Study

The scope of this study is to explore the extent of BSC usage in relation to the organization size and market factors related to product life cycle and market strength position among the manufacturing organizations in the Northern Malaysia. This is a quantitative study. Samples of research were randomly selected from manufacturing companies located at various industrial estates in the states of Pulau Pinang, Kedah, Perlis and Perak.

The research scope on the performance measurement measures of this study focus on the four distinct perspectives of the BSC in areas of financial, customers' satisfaction, internal processes, innovation and learning. Since the topic of this study is related to the field of management accounting and strategic management, questionnaires used in the research mainly focus on the total organization performance management strategies. Hence, it was decided that the most appropriate persons for answering the questions would be the Financial Controllers or the General Managers who control and manage overall organization performance measurement system. Data will be collected by means of self-administered questionnaire and statistical tools are used to analyse and test the hypothesis.

1.6 Organization of Report

Chapter 1 briefly introduces the subject of this research. The purpose, scope, significance of the study and also the problem statement are clearly defined. Chapter 2 is a detailed literature review that mainly focused on the performance management and the BSC measures. Key contents of this chapter consist of review on the importance of BSC to organization performance, BSC as a strategic performance

management system, the four distinct perspectives of the BSC, and also the common measuring indicators of BSC implementation. Literature review on relationship between the three independent variables of the research study that consists of organization size, product life cycle stage and market position and the extent of BSC usage is also part of the key agenda of this chapter. Chapter 3 outlines the theoretical framework, hypothesis generation and research methodology. It presents the research model of this study, proposed hypotheses and details of the research in sampling, data collection procedure, questionnaire's design and data analysis techniques. Chapter 4 presents the findings of the research. The descriptive statistics, reliability of measure, the measure of the central tendency and dispersion, correlation analysis and the results of the hypotheses are presented in this chapter. Finally, chapter 5 recapitulates the findings and discussed the implication of the research on organizations, the limitations of the research and suggestions on future research.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

Corporate performance management has been studied, analyzed and discussed for the past decades. During the last 70 years, business management fads come and go on a regular basis. We have seen everything from scientific management and theory "Y", to empowerment, result based management and spiritualism in the work place (Ricardo, 2000).

Based on the key basic concepts of performance management, successful organizations with the highest return on equity are those companies which have top managers embraced the following four key perspectives on business management:

- 1) Adopt a well-defined and communicated business strategy.
- 2) Ability to close gaps between organization, technology and process architecture through close aligning of all these elements.
- 3) Align all activities from top to bottom within the organization and eliminate low- value added activities by introducing out sourcing business management.
- 4) Adopt a specific set of key performance measures covering a diverse set of performance categories.

(Source: Corporate Performance Management: How to Build A Better Organization Through Measurement Driven Strategic Alignment. Ricardo, 2000.)

Business experts, business economists and organization psychologists all agree that management must choose a specific business strategy to excel. However, it is believed that top financial performers are those who have also established performance management system that ties every aspect of the organization from the boardroom to the factory floor and to the business strategy. This is known as “alignment management”. Hence, it is very important for managers to understand the concepts of performance measurement system to ensure ongoing competitive advantage (Ricardo, 2000).

Performance measures are used to decide between courses of action and assess operating status and progress toward goals. Despite the central role of measures in the decision making process, many organizations rely on measures that do not give a balanced picture of organization performance or provide guidance toward strategic objectives. Problems with the traditional measurement systems include overemphasis on financial criteria, a functional-reductionist viewpoint, and preoccupation with past performance and control. Besides, it is also said that the traditional non-financial measures have done little to encourage competitiveness. Typically, performance measures for one unit are divorced from those of others and from strategies and goals of the overall organization. The measures are inward looking and do not capture aspects of performance necessary to gain and retain customers or to build long-term competitive strength. (Nicholas 1998).

Organization that wants to embrace a world-class worldview on aspects such as Just In Time and Total Quality Management, must adopt a performance measurement system compatible with these view. One key element of such a system is the use of

enlightened measures that are more competitive focused, commonsense, easy to see and use, and forward looking. Enlightened measures are a key part of a modern performance measurement system. The major purposes of this system are to ensure behavior consistent with strategic objectives, present a balanced scorecard that gives a complete picture of the status and direction of the company in terms of financial and non-financial measures, provide information for decision making appropriate to each level and functional area, and track performance trends to assess progress and spot areas needing improvement (Nicholas 1998).

2.2 The Balanced Scorecard

Today's managers rarely think of measurement as an essential part of their strategy. For example, executives may introduce new strategies and innovative operating processes intended to achieve breakthrough performance, then continue to use the same short-term financial indicators they have used for decades, measures like return-on-investment, sales growth and operating income, these managers fail not only to introduce new measures to monitor new goals and processes but also to question whether or not their old measures are relevant to the new initiatives (Kaplan & Norton, 1993).

Effective measurement however, must be an integral part of the management process. The balanced scorecard first proposed by Kaplan and Norton (1992) provides executives with a comprehensive framework that translates a company's strategic objectives into a coherent set of performance measures. Much more than a measurement exercise, the balance scorecard is a management system that can

motivate breakthrough improvements in critical areas such as product, process, customer and market development (Kaplan & Norton, 1993).

The balanced scorecard (BSC) is a management system (not just a measurement tool) that enables organization to clarify their vision and strategy and translate them into action. It provides feedback around both the internal business processes and external outcomes in order to continuously improve strategic performance and results. Recognizing some of the weaknesses and vagueness of previous management approaches, the balanced scorecard provides a clear prescription as to what companies should measure in order to ‘balance’ the financial perspective. When fully deployed, the BSC transforms strategic planning from an academic exercise onto nerve center of an enterprise (Barkley, 2000).

2.3 The Importance of Balanced Scorecard Measures

In the best selling book titled “ The Balanced Scorecard – Translating Strategy Into Action – 1996”, Kaplan & Norton describes the innovation of the balance scorecard as below:

“ The Balanced Scorecard retains traditional financial measures. But financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate, however, for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology and innovation.”(Kaplan & Norton, 1996a)

As a result, to achieve competitive advantage in today's information based business environment, organizations must establish a strategic management system that has the ability to mobilize and exploit its tangible or intangible asset. It has become a far more decisive than investing and managing physical or tangible assets (Kaplan & Norton, 1996a). Subsequent research by Kaplan and Norton (2000) describes that in the industrial economy, companies created value with their tangible assets by transforming raw materials into finished products. A 1982 Brookings Institute study showed that tangible book value represented 62 percent of industrial organizations' market value. Ten years later, the ratio has dropped to 38 percent. And recent studies estimated that by the end of the twentieth century, the book value of tangible assets accounted for only 10 percent to 15 percent of companies' market values. Clearly, opportunities for creating value are shifting from managing tangible assets to managing knowledge-based strategies that deploy companies' intangible assets (Kaplan & Norton, 2000).

Results of researches done by Kaplan & Norton (2000)) indicate that BSC helps create opportunities and improve performance of organization on the following aspects:

- 1) Revenue improvement through development of customer relationships that retain loyalty of existing customers and enable new customer segments and market areas to be served effectively and efficiently,
- 2) Future growth through introduction of innovative products and services desired by targeted customer segments,
- 3) Profitability through customization of high quality products and services at low cost and shorter delivery lead times,

- 4) Mobilization of employee skills and motivation for continuous improvements in process capabilities, quality, and response times, and
- 5) Enhancement of ERP system through deployment of information technology, data bases and systems.

Research by Lipe (2000) show that the BSC provides a platform of agility and flexibility in management system that focus on new way of managing and business operating environment that is based on the following assumptions:

- Cross Functional integrated business processes,
- Easy linkage of customers and suppliers business environment,
- Focus of market segmentation,
- Globalization of business, and
- Knowledge based workforce.

2.4 Using Balanced Scorecard as a Strategic Management System

Balanced Scorecard supplemented traditional financial measures with three additional criteria that measures performance from the perspectives of customers, internal business processes and learning and growth. It therefore, enable companies to track financial results while simultaneously monitoring progress in building the capabilities and acquiring the intangible assets they would need for future growth. (Kaplan & Norton,1996b). BSC closed the gaps between the development of a strategy and its implementation through four management process steps (Morrisey, 1997):

First process: Translating The Vision Into Strategy –It helps managers build a consensus around the company strategy and express it in terms that can guide action at the local level.

Second process: Designing Measures, Communicating and linking – Let managers to consider all the major processes and recruit a cross functional team to obtain agreement on a potential setoff measurements to be tracked. Strategy will then communicated up and down the organization and link it to unit and individual goals. The BSC gives managers a way of ensuring that all levels of the organization understand the long-term strategy and that both departmental and individual objectives are aligned with it.

Third process: Business Planning and Implementation– This enables companies to integrate their business and financial plans. All resources would be utilized to undertake initiatives that move them toward the long-term strategic objectives.

Fourth process: Feedback, Learning and Continual Improvement- With the BSC as the center of management system, a company can monitor short-term results from the additional three perspectives that consist of Customer, internal business process and learning and growth. BSC enables modification of strategies to reflect real time learning.

More recently, companies expanded and employed BSC as the foundation of an integrative and iterative strategic management system. Companies are using BSC to clarify and update strategy, communicate strategy to company wide, align unit and

individual goals with strategy, link strategic objectives to long term targets and annual targets, identify and align strategic initiatives and finally, conduct periodic performance reviews and improve strategy. Due to the cause-and-effect linkages inherent in the scorecard framework, changes in one component of the company's system reinforce earlier changes made elsewhere. The BSC provides a framework for managing the implementation of strategy while also allowing the strategy itself to evolve in response to changes in the company's competition, market, and technological environment (Lipe, 2000).

2.5 The BSC Perspectives and Common Strategic Performance Measures

Balanced Scorecard which is also known as Corporate Scorecard come in variety of configuration and are based on any number of systematic approaches to examining and measuring organization-level performance. Generally, all corporate scorecards have three to seven perspectives. Different perspectives provide different ways of looking at the performance of a company through different eyes. Each perspective may have one or more key performance measures. Past 10 years' trend of USA Malcolm Baldrige National Quality Award indicates the following seven key perspectives of corporate scorecard:

1. Customer satisfaction,
2. Employee satisfaction,
3. Financial performance,
4. Operational performance,
5. Product/Service quality,
6. Supplier performance, and
7. Safety, environment and public responsibility.

(Source: Corporate Performance Management: How to Build A Better Organization Through Measurement Driven Strategic Alignment. Ricardo, 2000.)

However, Kaplan and Norton (1992) look at the contribution of BSC on four key perspectives that eventually become the basis of strategic management and framework of strategy implementation for value creation of organizations as stated below:

- Financial Perspective: “ How do we look to shareholders?” This will provide framework for companies to set strategy for growth, profitability, and risk viewed from the perspective of the shareholder.
- Customer perspective:’ How do customers see us?” Companies need to set value and differentiation from the perspective of customer.
- Internal Business Process Perspective: “What must we excel at?” This is related to strategies priorities for various business processes that create customer and shareholder satisfaction.
- Learning and Growth Perspective: “Can we continue to improve and create value?” The priorities to create a climate that supports organizational change, innovation and growth.

(Source: Havard Business Review: Putting Balanced Scorecard to Work. Kaplan and Norton, 1992)

The use of a BSC does not mean just “using more measures”; it means putting a handful of strategically critical measures together in a single report in a way that make cause and effect relations transparent and keeps managers from sub-optimizing by improving one measure at the expense of others. To achieve a

balance among the four dimensions of the BSC, a company should pay attention to all of them (Hoque & James, 2000).

2.5.1 Financial Perspectives

For most of the organizations, the financial themes of increasing revenues, improving cost and productivity, enhancing asset utilization and reducing risk can provide the necessary linkages across all four perspectives. Hence, It is very important that appropriate financial metrics are used to ensure synergy across the wide range of business units. This is due to financial objectives and metrics must play a dual role; they define the financial performance expected from the strategy, and they also serve as the ultimate targets for the objectives and measures of all the other scorecard perspectives. Roles of financial perspectives must be flexible enough to cater needs of different sets of business strategy that could be categorized into growth, sustain and harvest strategy. Generally, measurement themes for financial themes could be categorized as below:

- Revenue growth and mix,
- Cost reduction/productivity improvement, and
- Asset utilization and investment strategy

(Source: Translating Strategy into Action-The Balanced Scorecard. Harvard Business School Press. Kaplan & Norton, 1996a)

2.5.2 Customer perspectives

The customer perspective enables companies to align their core customer outcome measures-satisfaction, loyalty, retention, acquisition and profitability to targeted customers and market segments. It also enables them to identify and measure,

explicitly, the value proposition they will deliver to target customers and market segments. value proposition represents the drivers, the lead indicators, for the core customer outcome measures (Kaplan & Norton, 1996a).

Many companies today have a corporate mission that focuses on customer. “To be number one in delivering value to customers” is a typical mission statement. The balanced scorecard demands that managers translate their general mission statement on customer service into specific measures that reflect the factors that really matter to customers.

Kaplan & Norton (1996a) in their research write-up on Translating Strategy Into Action- The BSC, recommended five core measurement groups consist of the following:

- Market Share,
- Customer retention,
- Customer acquisition,
- Customer satisfaction, and
- Customer profitability

Source: Translating Strategy into Action-The Balanced Scorecard. Harvard Business School Press. Kaplan & Norton, 1996a)

2.5.3 Internal Business Process Perspectives

Customer-based measures are important, but they must be translated into measures of what the company must do internally to meet its customers' satisfactions. After all, excellent customer performance derives from processes, decisions, and actions

occurring throughout an organization (Kaplan & Norton, 1996b). In the internal process perspective, managers identify the critical processes at which they must excel if they are to meet the objectives of shareholders and targeted customer segments. Conventional performance measurement systems focus only on monitoring and improving cost, quality, and time-based measures of existing business processes. In contrast, the approach of the BSC enables the demands for internal process performance to be derived from the expectations of specific external constituencies (Kaplan & Norton, 1996a).

To achieve goals on cycle time, quality, productivity, and cost, managers must devise measures that are influenced by employees' actions. Since much of the action takes place at the department and workstation levels, managers need to decompose overall cycle time, quality, product and product to local levels. That way, the measures link top management's judgment about key internal processes and competencies to the actions taken by individuals that affect overall corporate objectives. To do this, information systems play an invaluable role in helping managers disaggregate the summary measures (Kaplan & Norton, 1996b).

Kaplan and Norton (1996a) found that companies could customize and prepare their internal business process perspective measurement based on generic value-chain model. This model encompasses three principal business processes:

- Innovation of products for future market,
- Cost effectiveness and quality in operations, and
- Post sale service.

2.5.4 Learning and Growth Perspectives

The fourth and final perspective on the BSC develops objectives and measures to drive organization learning and growth. The main objective of this perspective is to provide the infrastructure to enable ambitious objectives in the other three perspectives to be achieved. Balance scorecard stresses the importance of investing for the future on traditional investment aspects but also invest on infrastructure related to people, system and procedures (Kaplan & Norton, 1996a). Organizations generally focus on three principal categories for the learning and growth perspective described in the following:

- Employee capabilities,
- Information system capabilities, and
- Motivation, Empowerment and Alignment.

2.6 Linkage of Organization Size and Market Factors to the Extent of BSC usage

This research project consider organization size, product life cycle and market position as potential contexture factors of BSC measures and explore how organization performances are being affected by the usage of BSC at different settings.

2.6.1 Organization Size and Extent of BSC Usage

As cited in Hoque and James¹¹(2000) research report on contingency theories of organization explained by Burns and Stalker (1961), Lawrence and Lorsh (1967), they explain that size may affect the way organization design and use management system. Numerous accounting studies Ezzamel (1990), Libby and Waterhouse (1996) suggest that as firm size increases, accounting and control processes tend to

become more specialized and sophisticated. Likewise, studies by Chandler (1962) and Burns (1996) claim that size is related to greater decentralization and structuring of activities because of information processing constraints and the need to stimulate effective communication in larger organizations become more apparent and behavioral orientation management controls in small organizations become ineffective. Hence, in larger business enterprises, a broader set of information and measurement issues arises (Kaplan, 2000). Based on various reasoning mentioned earlier, it is proposed that large organizations are likely to place a great reliance on BSC than the smaller organizations. Results obtained by Hoque and James (2000) reported significant association between size and BSC usage. The results suggested that as size increases, organization find it more practical and useful to place greater emphasis on the BSC to support strategic decision making process.

2.6.2 Product Life Cycle Stage and Extent of BSC Usage

To be successful in business operation strategy, organizations need to position their strategies according to the stage of product life cycle of their products in the market. When a business strategy is set to plan new products and services to be designed, developed and introduced; Business operation strategy will be influenced by the planned characteristics of the products. The characteristics of the products will then determine the manufacturing system and marketing process of the organization (Gaither, 2000).

Basically, “product life cycle stage” can be classified into four categories. They consist of introduction or emerging stage. In this stage, sales begin, production and marketing are developing, and companies are normally operating at negative profit

level. Successful products move on to the growth stage when sales grow dramatically, marketing effort intensify, production concentrates on expanding capacity fast enough to cope up with demand and profits begin. Next comes the maturity stage when production concentrates on high volume production, efficiency, and low costs; marketing shifts to competitive sales promotion aimed at increasing or maintaining market share; and profits are at their peak. Finally, the products enter the decline stage of its life cycle, which is characterized by declining profit and sales. Eventually the product may be dropped or replaced by improved products (Gaither 2000).

Merchant (1984) suggests that organizations with products in the early stage of organization utilize less traditional financial control tools such as actual versus budget analysis. Likewise, Kaplan and Norton (1996a) describe that traditional financial tools are used together with other measurement indicators that link current customer, internal processes, human resources management and system performance for long term financial goals achievement. They suggest that financial tools are less effective at the early stage of product life cycle due to financial uncertainties situations. Non-financial indicators play very important roles in determining the financial success of the newly introduced product at later stage of the product life cycle. This rationale could be used to understand the possible relationship between product life cycle stage and BSC. Hoque and James (2000) supported this rationale with results that indicate positive association of higher BSC measures usage with companies having higher proportion of new products (Hoque & James, 2000).