Factors Affecting the Adoption of the Balanced Scorecard by Small and Medium Sized Enterprises

A Developing Country Perspective

By

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Chapter 1

Introduction

1.1. Background of the research

Small and medium sized enterprises (SMEs) are considered an important driving force of the world economy since this sector is the biggest contributor to employment in most countries. The sector not only creates a tremendous amount of production but also plays a crucial role in boosting the world economy. Despite being an important component of the economy, SMEs have faced many difficulties in their survival and development (Bach et al., 2021a; Bach et al., 2021b; Bach et al., 2023). Financial constraints limit their resources for implementing big business ideas and long-term investment projects. Lacks training and improving the qualifications of employees affect labor productivity, product quality and market competitiveness of SMEs. Inadequate management skills and business administration methods lead to the failure of the working environment to promote the autonomy and creativity of employees. A large number of SME business owners have not received any basic training, especially in the knowledge about market economy and business administration. Many SMEs are still unfamiliar with building a long-term and sustainable business development strategy with clearly defined goals and missions, specifically for each stage and each condition. To solve these problems, SMEs need to understand how their business is operating, identify where improvements should be made, and have a clear strategic planning process. One way is for them to adopt a performance measurement system (Cocca & Alberti, 2010; Garengo et al., 2005; Heinicke, 2018; Saunila, 2016). Use of a performance management system provides a more complete view of an organization through different measures and perspectives that link together, and enables development of a dynamic system that monitors both internal and external contexts and supports the organization's objectives (Bititci et al., 2000; Kaplan & Norton, 1996; Maas et al., 2016).

Among those common performance measurement systems, the Balanced Scorecard is the most popular and successful system currently in use (Hoque, 2014; Rigby & Bilodeau, 2015; Sorooshian et al., 2016). The Balanced Scorecard was first developed for large companies and has matured in the developed countries (Oghuvwu & Omoye, 2016). The success of the Balanced Scorecard has been enormous, with the adoptions of this model in different organizational types, and in different national and cultural contexts (Aryani & Setiawan, 2020; Madsen, 2015).

> The Balanced Scorecard recently celebrated its 20-year anniversary. Since the Balanced Scorecard was introduced by Robert Kaplan and David Norton in 1992, it has received considerable attention in the management and business community. The Harvard Business Review has referred to the Balanced Scorecard as one of the most influential management ideas of the last 75 years. The consulting firm Bain & Company's biannual survey of management tools and trends consistently ranks the Balanced Scorecard as one of the most widely used tools by managers worldwide. The Balanced Scorecard has also been the subject of much debate in academic circles. In recent years, several literature reviews have been carried out on the extensive Balanced Scorecard research literature. Just in the last few years two special issues of the *Journal of Accounting and Organizational Change* have been devoted to papers on the Balanced Scorecard. (Madsen, 2015, p. 24)

Kaplan and Norton (1996) argued that the Balanced Scorecard could be applied successfully in SMEs. This view has been supported by many researchers all over the world (Cooper et al., 2017; Mahshid Lonbani et al., 2014). Chow et al. (1997) stated that the Balanced Scorecard is an interesting idea that may help SMEs to restructure and survive in difficult times. Birch (1998) suggested that the Balanced Scorecard is as relevant a strategic performance measurement system for SMEs as for blue chip companies. Andersen et al. (2001) confirmed that the Balanced Scorecard is a comprehensive strategic planning method that includes internal and external as well as financial and non-financial aspects that can be used

by SMEs to improve their performance. By connecting with the business planning, the Balanced Scorecard is a useful tool for SMEs to develop long-term plans, identify and evaluate risks (Henschel, 2006; Von Bergen & Benco, 2004). Chen and Miao (2010) recommended that SMEs use the Balanced Scorecard to enhance the implementation of knowledge management and to measure its performance. Niven (2011) approved the applicability of the Balanced Scorecard in SMEs and provided a road map for the successful implementation of the Balanced Scorecard in SMEs. Santagada (2012) confirmed that the Balanced Scorecard is a good choice of performance measurement system for SMEs in a competitive environment. It can help SMEs to overcome the challenges and gain significant interest (da Costa Marques, 2012; Kumru, 2012). Aurelia et al. (2018) found that the Balanced Scorecard can support the strategic and operational network management of SME development and success. Malagueño et al. (2018) showed that the use of the Balanced Scorecard brings benefits to SMEs in terms of feedforward control to achieve higher financial performance and exploitative innovation outcomes.

Recently, the use of the Balanced Scorecard in SMEs has spread to Asian countries. Hussin and Yusoff (2013) explained that the Balanced Scorecard could be adapted successfully in Malaysian IT SMEs by developing a simpler model that deals with special characteristics of these companies. Suprapto et al. (2012) indicated four components of the Balanced Scorecard that could be applied in Malaysian Health Care Services SMEs. In Indonesia, most micro enterprise managers agree with the importance of the four perspectives of the Balanced Scorecard in driving the success of the company. They believe the relationships between the perspectives of the Balanced Scorecard are close, and the improvement of one perspective will lead to the enhancement of the others (Sondakh, 2015). Driven by specific features of Chinese SMEs, Yang and Jiehui (2005) created a flexible and adaptable Balanced Scorecard framework with one added perspective of the relationship between financing and government support that could help SMEs run their business better. Chong et al. (2019) indicated that internationalization, including knowledge, trust, commitment, and opportunity development, significantly impacts innovation and the Balanced Scorecard adoption among Malaysian SMEs.

The Balanced Scorecard is a pragmatic model that is extensively adopted in Western and developed countries (Creamer & Freund, 2010; Kasiri et al., 2012; Wu & Chang, 2012). In recent times, it has begun to be adopted in developing countries, especially by SMEs. In Vietnam, as well as other developing countries, the Balanced Scorecard has been proposed as a crucial choice of performance measurement tool for SMEs to guarantee stable growth and a successful future (Tran, 2013). However, there is limited systematic research on the Balanced Scorecard adoption by SMEs. In addition, Norton and Kaplan (1993) stated that there is no standard application model of the Balanced Scorecard. For implementation, it needs to be adjusted for the specific sector (Fernandes et al., 2006). There have been extensive calls for research into the use of the Balanced Scorecard by SMEs in different national contexts. It is necessary to investigate factors that affect its adoption and implementation in order to expand its use for better development and greater profitability of SMEs in developing countries. This research attempts to bridge these gaps in the literature and practice.

This research, in the form of three studies, uses a sequential mixed methods research design to investigate factors that influence the decision to adopt the Balanced Scorecard, the success of the adoption, and the level of adoption by SMEs in developing countries, using Vietnam as a case study context. Obtained results are expected to be applicable to other developing countries of similar development conditions.

1.2.   Research and objectives

The overarching problem in the program of this research is to identify important factors that influence the successful adoption of the Balanced Scorecard in SMEs in developing countries. As such, there are three research questions that immediately arise from this research problem:

Question 1: Why have SMEs in developing countries adopted or not adopted the Balanced Scorecard?

Question 2: How do the factors influence the successful adoption of the

Balanced Scorecard by SMEs in developing countries?

Question 3: What are important factors affecting the level of the Balanced Scorecard adoption in SMEs in developing countries?

In an attempt to answer each of the above questions, this book provides a research ready framework that conceptualizes and measures how successful SMEs (in developing countries) are in adopting the Balanced Scorecard. To that aim, this book uses Vietnam as a typical case study for its research.

1.3. Scope of the research

This research focuses on Vietnamese SMEs as representative SMEs in developing countries, in various fields, including manufacturing, trading and services. Different types of ownership are covered, ranging from state-owned and privately-owned enterprises to limited liability, joint-stock, and foreign invested companies.

1.4. Research methodologies

Vietnam is a unique transitional economy that is both manipulated by the market mechanism and regulated by the State with various forms of ownership. To date, the uniqueness of Vietnamese SMEs in this context has not been addressed in research on the Balanced Scorecard adoption. To assess whether previous studies of the Balanced Scorecard in developed countries are relevant to the condition of Vietnamese SMEs, the research in this book applied a sequential mixed method to explore the determinants of its adoption in Vietnamese SMEs. Using mixed method is considered a good research practice as it enables consideration from multiple viewpoints, perspectives, positions and standpoints (Johnson et al., 2007; Mathison, 1988). The initial theoretical framework was constructed from the literature review of earlier studies in the field to provide a better understanding of the problems. Three studies, including two qualitative exploratory studies comprising semi-struc-

tured interviews and case studies and a quantitative study comprising a survey, were conducted sequentially to solve the research problems.

1.4.1. Qualitative exploratory studies (Study 1 and Study 2)

The qualitative exploratory studies consisting of interviews (Study 1 included in Chapter 4) and case studies (Study 2 included in Chapter 5) were implemented to refine the preliminary conceptual framework. Study 1, using semi-structured interviews, was conducted to find the reasons why Vietnamese SMEs have adopted or not the Balanced Scorecard. 32 individual interviews were conducted with key informants who were directly responsible for the decision to adopt the Balanced Scorecard in their company. They were either top managers (executives), senior managers (heads of departments) or accountants from SMEs operating in various fields (manufacturing, trading, and services), and in different provinces from the northern areas to the southern areas of Vietnam (from three to six interviewees per company). Template analysis was used to analyze the data to reveal the factors influencing the decision to adopt the Balanced Scorecard in Vietnamese SMEs. The interview protocol for the semi-structured interviews was developed from the literature review and approved by *the Flinders Social and Behavioral Research Ethics Committee*.

Study 2, comprising case studies of four successful Balanced Scorecard adopter Vietnamese SMEs, was conducted to investigate whether and how the impact factors found in Study 1 impacted the successful adoption of the Balanced Scorecard by these Vietnamese SMEs. The four case studies included one in the southern area of Vietnam, one in the north-central, one in the south-central, and one in the northern area. These were selected from the list of the Vietnam Prosperity Joint Stock Commercial Bank (SMEs are the main customers in this bank). All documents including financial statements, bank statements, tax reports, and others that relate to the successful adoption of the Balanced Scorecard in the four case studies were analyzed to provide relevant background information. The in-depth interviews (focus groups or individual interviews) were conducted using a set of topic headings to guide the

conversations with the staff involved in the adoption and implementation of the Balanced Scorecard that were introduced by CEOs. There were two focus group interviews with the participants from manufacturing company (case 1) and the transportation company (case 4), and seven individual interviews with Director, Finance manager, Human Resource manager, Business Development manager and Information Technology manager from the software company (case 2) and the agribusiness company (case 3). Case 1 and case 4 preferred to take part in focus group interviews because they had weekly meeting to discuss the Balanced Scorecard adoption in their company. They allowed us to conduct the focus interviews at the time of the meeting to save time. In addition, the participants believed that participating in focus group can help the conversations develop naturally, and the interaction of information between them can help to provide more detailed information. Other participants in case 2 and case 3 chose to take part in individual interviews because they could select the appropriate time and answer the interview questions freely without being influenced by the opinions and views of other participants. The interview protocol was developed from the findings of Study 1 and approved by *the Flinders Social and Behavioral Research Ethics Committee.*

The results of the semi-structured interviews and case studies helped to refine and reinforce the conceptual framework. Taking Contingency theory as the primary theory, the semi-structured interviews and case studies discovered that *top management, organizational strategy, organizational culture, organizational resources, the intensity of market competition*, and *the support of business networks* are the main factors that impact the decision to adopt the Balanced Scorecard and the success of Balanced Scorecard adoption in Vietnamese SMEs. Hypotheses of the relationships between these factors and the level of the Balanced Scorecard adoption in Vietnamese SMEs were developed. The survey (Study 3) was then conducted to test the hypotheses and investigate the factors affecting the level of the Balanced Scorecard adoption in Vietnamese SMEs.

1.4.2. The Quantitative study (Study 3)

The survey in the quantitative study (included in Chapter 6) was then conducted to test the hypotheses about the determinants affecting the level of the Balanced Scorecard adoption in Vietnamese SMEs.

An email survey was used to collect the data. Target informants were top managers of Vietnamese SMEs that had successfully adopted the Balanced Scorecard, in various fields including manufacturing, trading, and services, and in different types of ownership, such as state-owned, privately-owned enterprises, joint stock companies, and joint ventures. This was because these managers have appropriate involvement and knowledge about the adoption of the Balanced Scorecard in their enterprises. These companies were identified from a list provided by the Vietnam Prosperity Joint Stock Commercial Bank, which is a SMEs focused bank. The bank assisted with participant contact and recruitment for this project. From their list of SMEs clients, a representative of the bank contacted approximately 1,500 top managers of SMEs that have successfully adopted the Balanced Score-card by email. The email asked for their agreement to participate in this research project in a voluntary, and confidential manner, by completing a questionnaire. 222 questionnaires were received, reaching a 14.8% response rate. All of the questionnaires were usable.

The data was analyzed using SPSS statistical software. Test for normality was the first stage of data analysis. This test is used to define whether a data set is well-modeled by a normal distribution and to calculate how likely it is for a random variable underlying the data set to be normally distributed (Ghasemi & Zahediasl, 2012; Greener, 2008). Before testing the theory, it was necessary to assess the reliability and validity of the scale. Cronbach's Alpha method was applied to validate and confirm the unidimensional reliability and internal consistency of the dataset. The Exploratory Factor Analysis (EFA) method helped to evaluate two important types of values of the scale: convergent and discriminant values (Osborne et al., 2008). The EFA method belonged to interdependence techniques and based on the interrelationships. EFA was applied to shorten a set of K variables into a set F (F<K) of more meaningful factors. The basis of this

reduction was the linear relationship of factors with primitive variables (observed variables) (Hair et al., 2019; Hair et al., 1998; Thompson, 2004). Finally, the hypotheses were tested using regression analysis model.

The questionnaire was designed to include information on the Balanced Scorecard adoption in selected Balanced Scorecard adopter SMEs, with specific emphasis on factors affecting the level of its adoption in these companies. The questionnaire consisted of seven pages, including four main parts.

Part 1 included seven questions related the background information in their company.

Part 2 included three questions related the general information of the situation of the adoption of the Balanced Scorecard adoption in their company.

Part 3 included questions related the assessments of respondents regarding six impact factors of the Balanced Scorecard adoption in their company.

Part 4 included questions related to firm performance. These questions asked the respondents to provide the information of their companies' performance after adopting the Balanced Scorecard.

1.5.   Structure of book

This book is structured into seven chapters:

Chapter 1	Introduction
Chapter 2	Performance measurement and the Balanced Scorecard
Chapter 3	The Balanced Scorecard adoption in Vietnamese SMEs
Chapter 4	Why have Vietnamese SMEs adopted or not the Balanced Scorecard?
Chapter 5	How do the factors influence the successful adoption of the Balanced Scorecard by Vietnamese SMEs?
Chapter 6	What are the factors affecting the level of the Balanced Scorecard adoption in Vietnamese SMEs?
Chapter 7	Discussion and conclusion

Chapter 1 presents an overview of the research problem, the significance of the research area, and the aims of the research. It also describes the methodology to conduct the research and the structure.

Chapter 2 and Chapter 3 outline the theoretical framework supporting the research and present a review of the literature on performance measurement, Balanced Scorecard, SMEs, and especially Balanced Scorecard adoption in SMEs.

Chapter 4 and Chapter 5 present the results of qualitative research (Study 1 and Study 2). Chapter 4 describes the investigations of the decision of Vietnamese SMEs to adopt or not to adopt the Balanced Scorecard. Meanwhile, Chapter 5 answers the question of how the factors influence the successful adoption of the Balanced Scorecard by Vietnamese SMEs.

Chapter 6 presents the research hypotheses developed from the previous studies and the results of quantitative research (Study 3). It identifies factors affecting the level of the Balanced Scorecard adoption in Vietnamese SMEs.

Chapter 7 discusses the findings along with the theoretical and practical implication of the research. This chapter firstly discusses and draws conclusions from the key findings related to the overall research problem of what factors are influencing successful adoption of the Balanced Scorecard in SMEs in developing countries. Key findings relate to the answers of three research questions: (1) The reasons why SMEs in developing countries have adopted or not the Balanced Scorecard, (2) The way the factors impact the successful adoption of the Balanced Scorecard by SMEs in developing countries, and (3) What factors affect the level of the Balanced Scorecard adoption in SMEs in developing countries. This chapter also outlines the contributions and limitations of this research and suggests items to be included in the future research agenda.

1.6. Conclusion

This chapter provided the reasons for the conduct of this research by presenting the research problem and research issues to be addressed. It then introduced the research methodology and outlined the book. The next chapter provides a comprehensive review of the literature and a description of the context and focus of this research.

Chapter 2

Performance Measurement and Balanced Scorecard

2.1. Introduction

This chapter reviews both the theoretical and empirical literature, related directly to Performance Measurement, the Balanced Scorecard and its adoption by SMEs. It is structured around the research on: (1) performance measurement, (2) the Balanced Scorecard, (3) the Balanced Scorecard adoption by SMEs, (4) Determinants of Balanced Scorecard adoption.

2.2. Performance measurement

What is performance measurement?

Performance is an interesting topic that involves many aspects, such as the establishment, market occupancy, and/or bankruptcy of a company. Performance determines the outputs of certain activities (Rantanen et al., 2007). According to Corvellec (2018), "Performance determines the existence, the nature and the prices of products". Performance is influenced by various internal and external factors of an organization that need to be measured carefully.

To achieve sustainable development, an organization needs to have a relevant performance measurement and lack of a structured performance measurement can lead to failure of a company. Performance measurement plays a critical role in understanding how a business is operating (Bititci et al., 2002; Gunawan et al., 2008; Kaplan & Norton, 1996), and is a central issue in both the literature and in practice (Heckl & Moormann, 2010; Neely, 2005; Richard et al., 2009). Different performance measurement definitions, models, and frameworks have been

developed by researchers and practitioners. Neely et al. (1995) defined performance measurement as "the process of measuring the efficiency and effectiveness of action". The definition of performance measurement by Moullin (2003) focused on "evaluating how well organizations are managed and the value the organizations deliver for customers and other stakeholders". Recently, Hatry (2006) defined performance measurement as "regular measurement of the results (outcomes) and efficiency of services or programs". Performance measurement is a structured system that can help an organization get better control and improve the performance by gathering, monitoring and assessing an organization's activities to achieve the planned goals and objectives (Wu, 2009).

Although there are many different views, they all defined performance measurement as a system of management indicators that covers all relevant perspectives of the organization and monitors and drives the organizational strategy to the operational level to communicate that strategy to the entire organization and to its stakeholders. (Hourneaux Jr et al., 2017, p. 150)

The evolution of performance measurement

The evolution of performance measurement can be divided into three periods. The first performance measurement system, developed in the early twentieth century, was an accounting model based mainly on cost accounting to assess the organization's performance. It measured net earnings in relation to cost of operation, not in relation to the firm's total investment in assets, and it concentrated on managing the short-term cost rather than long-term performance (Johnson, 2013). Cost management practices proved incapable of wholly managing cost of products, activities, processes and the cost of quality; it only focused on controlling processes in isolation (Bititci, 1994). Financial measures appeared and gradually replaced the "mission" of the cost accounting model.

Financial measure has dominated performance measurement models

in the decades between 1920 and 1980 (Venkatraman & Ramanujam, 1986). This approach concentrated on measuring sales growth, earning per share, profitability such as return on investment, return on sales, and return on equity. In this model, the "market" and "value-based" measurements are more precise than in the cost accounting approach (Hax & Majluf, 1984). Nevertheless, this model focused predominantly on the financial perspective while more comprehensive control of other areas was required (Yadav & Sagar, 2013).

A broader framework of performance measurement with the addition of non-financial indicators has prevailed since the 1980s. The 1990s, in particular, was an era of growing research on management performance as an important approach of management control system. "Within the next five years, every company will have to redesign how it measures its business performance" (Eccles, 1991, p. 617). Under this framework, the performance of an organization is measured more logically and comprehensively. Table 2.1 presents the advantages of Innovative Performance Measurement in comparison with Traditional Performance Measurement.

Traditional Performance Measurement	Innovative Performance Measurement
Based on cost/ efficiency	Value-based
Trade-off between performance	Performance compatibility
Profit-oriented	Customer-oriented
Short-term orientation	Long-term orientation
Prevalence of individual measures	Prevalence of team measure
Prevalence of functional measures	Prevalence of transversal measures
Comparison with standard	Improvement monitoring
Aim at evaluating	Aim at evaluating and involving

Table 2.1 *The evolution of performance measurement. Source: De Toni and Tonchia (2001)*

Many performance measurement frameworks have been designed to meet the demand of organizations to measure their performance. These

frameworks have been reviewed and classified in the literature. In their review, Folan and Browne (2005) argued that the Balanced Scorecard system, the Business Process Reengineering Performance Measurement system, and the Medori and Steeple's Performance Measurement system are three valuable examples of performance measurement frameworks. These three models are valuable because they meet the basic requirements of structural and procedural framework for a successful performance measurement system (Folan & Browne, 2005). Yadav and Sagar (2013) examined the research trend of performance measurement frameworks in two decades (from 1991 to 2000, and from 2001 to 2011). They analyzed more than 20 performance measurement systems against the criteria of time and highlighted issues, dimensions of performance measures, contributions, and limitations. The findings of Yadav and Sagar's research showed that the Balanced Scorecard, Performance Pyramid. EFQM – excellence model, and Performance Prism are the dominant performance measurement frameworks. These models have been very popular in the literature as well as in practices because they contribute to the knowledge related to non-financial performance measures, quality, self-assessment and many stakeholders (Yadav & Sagar, 2013).

The literature pointed out that few performance measurement systems have been academically developed (Folan & Browne, 2005). Most popular performance measurement frameworks need to be in practice in organizations a long time. Among the well-known performance measurement systems, the Balanced Scorecard has the reputation as a high-performance measurement framework that adds an integrated strategic perspective to the performance measurement system and fulfills the long-term objectives and vision of the business.

Performance measurement in SMEs

Performance measurement models were first designed and developed for large companies. While the first performance measurement models for large companies appeared in the 1980s, the first research related to SMEs was undertaken nearly ten years later (Taticchi et al., 2010).

Taticchi et al. (2010) showed that more research on SMEs' performance measurement appeared from the beginning of 2000s and developed in two directions: (1) applying the model developed for large organizations to SMEs or (2) designing specific models for SMEs.

The SME sector is a key element not only for industrial development but also for the socio-economic development of every country. However, SMEs always face many challenges in their operation because, amongst other things, the lack of a structured performance measurement can lead these companies to fail. Unstructured performance measures could not only make the achievement of strategic objectives difficult, but could also prevent any strategic development occurring within the company (Hudson, Smart, et al., 2001).

The characteristics of SMEs have been the concern of much research on performance measurement in SMEs. Cocca and Alberti (2010) pointed to the lack of resources in SMEs, including lack of human, managerial time, financial stability, and security, and limitations in skill, all of which lead to poor strategic business planning and human resource management. Moreover, SMEs have to face a highly competitive market and limited customers, which affects the payment of debt and cash flow and results in a lack of control over the future. Garengo et al. (2005) found the main characteristics of SMEs that impact the adoption of a performance measurement model are lack of human resources, inadequate managerial capacity, limited capital resources, poor strategic planning, and misconceptions about performance measurement. The characteristics of SMEs underline the differences between SMEs and large companies. Therefore, a different approach to performance measurement is necessary for SMEs.

> The characteristics of limited resources, limited cash flow coupled with a reliance on few customer, a firefighting mentality coupled with an emphasis on current performance, and potential staff turnover coupled with a flat organizational structure, means that SMEs require an alternative approach to strategic performance measurement development (Hudson, Smart, et al., 2001)

Since 1990s, different well-known performance measurement frameworks have been used as the following:

Accounting and non-accounting measures for quality-based performance in small firms (Noci, 1995) proposes a conceptual framework for choosing most effective models to evaluate quality-related investments in small firms. Specifically, it focuses on the approach that balances different decision needs (completeness, measurability of output, structural characteristics, etc.).

Balanced Scorecard application to SMEs (Chow et al, 1997) provides a framework for SMEs' performance measurement by guiding step-by-step implementation.

Customer orientation and performance (Appiah-Adu and Singh,1998) uses the indicators of new product success, sale growth and return on investment to examine the customer orientation-performance in SMEs and test the possible effects of innovation orientation, market dynamism and competitive intensity on the degree of customer orientation among these firms.

Activity based costing in SMEs (Gunasekaran et al, 1999) provides a framework for implementing the Activity Based Costing (ABC) model in SMEs by reviewing the cost management practices in SMEs and identifying criteria and condition for ABC in SMEs considering the business goals.

Quality model in an SME context (McAdam, 2000) examines how total quality management approaches are applied in SMEs context by a study of 20 SMEs cases.

Computer-based performance measurement in SMEs (Kueng et al, 2000) presents a framework of computer-based performance measurement in SMEs by analyzing SME specific and PM specific criteria.

Performance measurement in the implementation of CIM in SMEs (Marri et al, 2000) proposes a computer-integrated manufacturing framework to improve SMEs' performance by present an empirical study conducted in British SMEs.

Effective performance measurement in SMEs (Hudson, Lean, et al, 2001) presents the limitations of performance measures used in SMEs. By testing through a case study, a new process for developing effective performance measurement in SMEs is proposed.

Indicators for performance measurement in SMEs (Hvolby and Thorstenson, 2001) suggests the Balanced Scorecard approach as a reasonable balanced performance measurement for SMEs. It emphasizes lead-time and lead-time reduction are the primary performance indicators.

Theory and practice in SME performance measurement systems (Hudson, Smart, et al., 2001) evaluates ten performance measurement systems from the literature to find out the appropriate approach for SMEs. A series of interviews with SMEs managers to investigate whether they measure their performance strategically.

Dynamic integrated performance measurement system (Laitinen, 2002) develops a dynamic integrated performance measurement system to measure and improve SMEs' performance. This framework derives from the idea of activity-based costing. It consists of 2 external factors of financial performance and competitiveness and 5 internal factors of costs, production factors, activities, products, and revenues.

A strategic planning model for SMEs based on the Balanced Scorecard (Davig et al., 2004) uses a structured telephone interview with 75 manufacturing SMEs that have fewer than 250 employees. It presents a guideline for SMEs to implement the Balanced Scorecard.

Performance measurements in the implementation of information systems in SMEs: a framework and empirical analysis (Sharma and Bhagwat, 2006) uses a survey methodology to develop a framework for information systems in SMEs to measure and evaluate information system performance in six perspectives: operational efficiency of the information system function, down time of information system, responsiveness of information system, timeliness of information, accuracy of information, and overall competitive position.

Balanced Scorecard implemented in a not for profit SME (Manville, 2007) applies a case based methodological approach exploring the perceptions of two management stakeholder group to discover that the Balanced Scorecard can be implemented within a not for profit SMEs.

Measuring performance of SMEs: the grounded theory approach (Chong, 2008) uses the procedure stipulated by the grounded theory and in-depth semi-structured interviews with the owners-mangers of SMEs to find out how performance is being measured. The findings highlight the equal attention of SMEs on both the financial and non-financial measures.

Performance measurement management for SMEs: An Integrated Approach (Taticchi et al., 2008) proposes a framework for a Performance Measurement Management system design for SMEs by reviewing the literature. This integrated framework overcomes the weaknesses in the previous framework while keeping their strong points.

Supply chain performance measurement framework for small and medium scale enterprises (Thakkar et al., 2009) integrates the main features of Balanced Scorecard and the supply chain operation reference (SCOR) model to develop an integrated performance measurement framework for supply chain evaluation and planning in SMEs.

Development of assessment methodology for improving performance in SME's (Munir Ahmad and Alaskari, 2014) presents a successful and effective assessment methodology for manufacturing SMEs by providing a useful indicator to identify waste and suggesting how such activities could be organized and managed more effectively.

Performance measurement system implementation in a turbulent operating environment (Pekkola et al., 2016) provides a new understanding about the performance measurement design process in SMEs operating in a turbulent environment by revealing the framework for a flexible performance measurement system design.

Performance measurement approach for innovation capability in SMEs (Saunila, 2016) presents a framework to improve the innovation capa-

bility through performance measurement in SMEs. The framework assists SMEs to cope with the increasing need for innovation as an asset of their business performance.

Market Orientation and Performance Measurement System Adoption Impact on Performance in SMEs (Länsiluoto et al., 2018) shows the relationship between market orientation, performance measurement adoption and firm performance in SMEs.

In brief, performance measurement in SMEs has received more attention in recent years. More balanced models with financial and non-financial measures have been applied and implemented in SMEs rather than purely financial measures. Among the popular performance measurement systems related to financial and non-financial measures, the Balanced Scorecard has been considered as the most appropriate approach to measure SMEs performance (Andersen et al., 2001; Manville, 2007; Tennant & Tanoren, 2005).

2.3. The Balanced Scorecard

Introduction to the Balanced Scorecard

Before the 1990s, many companies used only financial measures to manage their business and assess their performance (Chavan, 2009). This led to limitations in their management and development because financial measures only report what has happened in the past while enterprises need to have more information for the future (McCunn, 1998). The Balanced Scorecard was proposed by Kaplan and Norton (1992) who included four key perspectives: the Financial perspective, the Customer perspective, the Internal Business Process perspective and the Learning and Growth perspective. These provide a performance management framework by matching "financial measures of past performance with measures of the drivers of future performance"(Kaplan & Norton, 1996, p. 8) that is better in dealing with today's business environment. In the beginning, the Balanced Scorecard was defined as "a set of measures that gives top managers a fast but comprehensive

view of the business" (Kaplan & Norton, 1992, p. 71). Over 20 years of development, the concept of Balanced Scorecard has matured beyond being just a performance measurement system, to include roles in strategic management systems and as an organizational communication tool (Basuony, 2014; Cengic & Fazlic, 2008; Niven, 2011).

The Balanced Scorecard is one of the most popular management tools among organizations all over the world (Ax & Bjørnenak, 2005; Mehralian et al., 2017; Sartor, 2019; Sorooshian et al., 2016; Voelker et al., 2001; Watts & McNair-Connolly, 2012). It has been identified as one of the top prevalent management measures for many years (Rigby & Bilodeau, 2009, 2011, 2013, 2015) and has been accepted by thousands of organizations (Kaplan, 2009). Kaplan and Norton's key performance indicators have been applied by around 64% of organizations to evaluate their performance (Kurtzman, 1997). The widespread use of the Balanced Scorecard means it is a topic of great interest in both academic and business communities (Atkinson et al., 1997; Hasan & Chyi, 2017; Hoque, 2014; Nørreklit, 2003; Sartor, 2019).

Organizations have recognized the Balanced Scorecard as a truly necessary management tool (Mooraj et al., 1999), as it solves the problems arising from the sole use of financial measures (Mooraj et al., 1999; Nørreklit, 2003; Otley, 1999) and provides "managers with the instrumentation they need to navigate to future competitive success" (Kaplan & Norton, 1996, p. 2). The Balanced Scorecard is also a feed-forward control system that combines outcome measures and performance drivers together in a cause and effect relationship (De Haas & Kleingeld, 1999; Norreklit, 2000). Anand et al. (2005) concluded the use of the Balanced Scorecard has also led to cost reductions and improvements to the bottom line in organizations.

While the case for the usefulness of the Balanced Scorecard has been widely recognized, it has also received considerable criticism. Critics of the Balanced Scorecard concentrate on the implementation of the concept in practice (Awadallah & Allam, 2015). Butler et al. (1997) found that Kaplan and Norton's concept of the Balanced Scorecard is

too general. The design and construction of the Balanced Scorecard has not been well documented, and it can lead to misunderstanding in the conventional accounting sense. Nørreklit (2003) stated that there is a cause and effect relationship between customer satisfaction and loyalty, between loyalty and financial results as suggested by Kaplan and Norton (1992) and Kaplan and Norton (1996), and that the Balanced Scorecard can cause issues in implementing strategic control. Atkinson et al. (1997) criticized the failure of the Balanced Scorecard in connecting stakeholder measures with performance measurement. Brignall et al. (1991), Neely et al. (1995), Maisel (1992), Ewing and Lundahl (1996), and Lingle and Schiemann (1996) opined that the addition of consideration of competitiveness, human resources, employee satisfaction, supplier, and environment could enhance the Balanced Scorecard's framework. Simons (1990) did not support the Balanced Scorecard as a valid strategic control system, because it did not fully explain how strategies are formulated and implemented in organizations.

Despite the debates on the Balanced Scorecard, it has been assessed as the most successful concept in the field of performance measurement, and thousands of public, private and non-profit organizations in all industry sectors and all scales have implemented it (Basuony, 2014; Kaplan, 2009). The publications of Kaplan and Norton on the Balanced Scorecard concept have been the most cited literature sources (De Waal, 2003; Marr & Schiuma, 2003). Hoque (2014) suggested that the Balanced Scorecard will continue to be a crucial organizational control and accountability tool, and will be the valuable option for companies until another advanced innovation device appears. Taticchi et al. (2010) confirmed 30 – 80% of the firms around the world are using the Balanced Scorecard. Aryani and Setiawan (2020) identified seventy-one articles about the Balanced Scorecard topics published in 21 Scopus first-ranked (Q1) indexed journals and found that it continues as a worthwhile performance measurement system. Kureshi (2014) presented the use of Balanced Scorecard as a management tool, as shown in Figure 2.1.

Figure 2.1 *Use of the Balanced Scorecard as a management tool*

The four perspectives of the Balanced Scorecard

The Balanced Scorecard focuses on four main perspectives as shown in Figure 2.2 and is discussed in the following subsections:
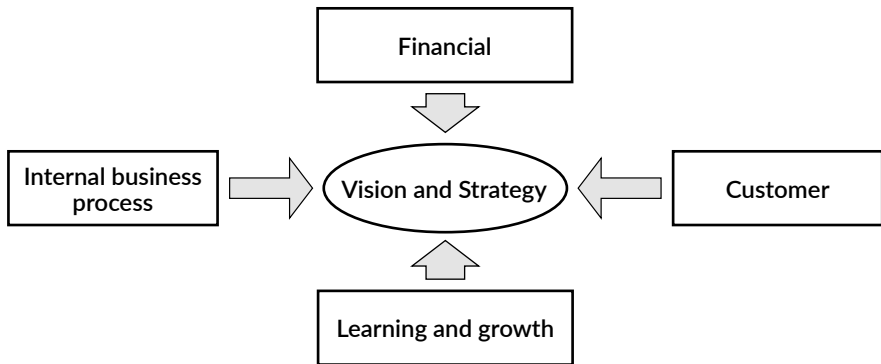
Figure 2.2 *Four perspectives of the Balanced Scorecard*

The *Financial* perspective helps to answer the question of "How do we look at shareholders?". It focuses on long-term objectives of the business by emphasizing profitability objectives and other financial objectives. It can be divided into three stages of the product's life cycle: rapid growth, sustenance, and harvest. In each stage, different financial objectives and strategies are set up. Financial measures, therefore, need to have good design and implementation to keep track of whether objectives and

strategies are relevance and promote improvements.

The *Customer* perspective helps to answer the question of "How do customer see us?" Customers play an important role in the development of companies. In the competitive business environment, a company's main mission is to focus on the customer, "To be number one in delivering value for its customers"(Kaplan & Norton, 1992).

The four main concerns of customers in companies are time, quality, performance and service, and cost (Kaplan & Norton, 1992). The Customer perspective needs to determine the objectives of time, quality, performance and service, and cost, which are then translated into specific strategies and measures in order to achieve customer outcomes of market and account share, customer retention, customer acquisition, customer satisfaction, and customer profitability (Kaplan & Norton, 1996).

The main purposes of the Internal business process to support the Customer and Financial perspectives by "delivering on the value propositions of customers in targeted market segments and satisfying shareholder expectation of excellent financial returns" (Kaplan & Norton, 1996).

The *Internal business process perspective* distinguishes the Balanced Scorecard and traditional performance measurement models by exposing two important points. Firstly, while traditional approaches try to control and improve existing business processes, the Balanced Scorecard focuses on recognizing new processes to effectively meet customer and financial objectives. Secondly, the Balanced Scorecard tries to enhance the role of the Innovation process in the Internal business process to reach both short-term and long-term objectives (Kaplan & Norton, 1996).

In the *Learning and Growth perspective*, the infrastructure of an organization is examined with the purpose of achieving long-term growth and improvement based on the three main sources of people, systems, and organizational procedure. The Learning and Growth perspective identifies the objectives of reskilling employees, improving information technology systems, and rearranging organizational procedures, and

transfers these objectives into specific strategies and goals. It will help to fix the gaps between the existing capacity of employees, systems, and procedures which have been detected by the three other perspectives of the Balanced Scorecard (Kaplan & Norton, 1996).

Balanced Scorecard evolution

The Balanced Scorecard was first introduced by Kaplan and Norton (1992) as a single performance scorecard model, combining financial and non-financial perspectives (customer, internal business, innovation and learning). The Balanced Scorecard is considered not only as a measurement exercise, but also a performance measurement framework that promotes innovation improvement and help to measure the long-term performance of organizations. Kaplan and Norton have continuously developed their original Balanced Scorecard idea to the present Balanced Scorecard model through several publications.

In Kaplan and Norton's book, *"The Balanced Scorecard: Translating strategy into action"*, (Kaplan & Norton, 1996, p. 9) they renamed and altered two of the four original perspectives. The "Internal business perspective" was renamed the "Internal Business process" with the addition of the "Innovation" component. The "Innovation and Learning perspective" with the addition of "Growth" part and the removal of the "Innovation" element was named "Learning and Growth" (Kaplan & Norton, 1996, p. 9). Further, in this book, Kaplan and Norton developed the Balanced Scorecard from a measurement system to a strategic management system, defining the strategic objectives and demonstrating causality, linking the long-term strategies of an organization to the organization's short-term activities. In addition, the 1996 Balanced Scorecard version stresses the cause and effect relationships among the various measures: "measures of Learning and Growth → measures of Internal Business process → measures of Customer perspective → Financial measures" (Norreklit, 2000).

In their subsequent publications, Kaplan and Norton combined the Balanced Scorecard with management tools in a comprehensive

and closed-loop system by focusing on the relationship between the Balanced Scorecard measures and an organizational strategy map (Kaplan & Norton, 2001, 2004, 2008). The strategy map combines strategic objectives within the four perspectives and the causal relationships among them. It presents clearly how tangibles and intangibles assets are converted into tangibles outcomes (Kaplan & Norton, 2001). Through a well-designed strategy map, it is easy to link the strategy and all employees in a company.

2.4. Adoption of the Balanced Scorecard

The adoption of the Balanced Scorecard in general

The Balanced Scorecard, first introduced at the beginning of the 1990s, has been developed over twenty years and has attracted much attention all over the world. A large amount of research related to this topic has been undertaken about different industries (Awadallah & Allam, 2015; Giannopoulos et al., 2013; Hasan & Chyi, 2017) and published in academic, practical, accounting, and management journals and other journals of education, hotel and tourism, and health and public health (Bourne, 2008; Chiu & Li, 2014; De Waal, 2003; Denton, 2005; Madsen, 2015; Magdy Abdel-Kader et al., 2011). Most of these studies addressed the conceptual evolution, adoption and diffusion, implementation and use, performance effects and critical perspectives of the Balanced Scorecard (Hoque, 2014; Madsen & Stenheim, 2015; Phan, 2017). Some of the studies examined the benefits of implementing the Balanced Scorecard (Hoque, 2014), while very few researchers paid attention to it in "strategy mapping", "strategy execution" and "total strategic alignment" (Cheng & Humphreys, 2012). Most studies were case-based and examined the Balanced Scorecard from a single perspective, with little research investigating all its aspects or synthesizing its literature (Magdy Abdel-Kader et al., 2011; Marr & Schiuma, 2003).

An important stream in the research deals with how the Balanced Scorecard is adopted by different organizations, in different national