Performance Management Systems based on the Balanced Scorecard Framework: The Case of Indonesian Customs and Excise Organizations

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Abstract

One of the areas that has experienced great changes due to public-sector reform processes is performance management. Focus on performance management in the public-sector has experienced changes over time, from the process of monitoring activities to outcome-based performance management. Many emerging economies have adopted management systems developed for advanced economies in order to enhance accountability, transparency, and service quality delivery. However, the practice of adopting a new management system that has worked well in advanced economies is largely untested. For instance, though the public-sectors of many countries with emerging economies are reported to have implemented the balanced scorecard (BSC) concept, very limited literature has reported its implementation. This study explores the implementation of the BSC framework as a performance management system (PMS) in the public-sector in Indonesia. Broadly, this study was designed to cover three major themes: reviewing the quality of BSC implementation by using the principles of the strategy-focused organisation (SFO) model, determining the extent to which organisational factors affect BSC implementation, and lastly, investigating how the BSC contributes to employee behaviour and relates to organisational performance.

This study adopts quantitative methods by using data from self-administered questionnaires (n=1,675) and documents related to BSC implementation and organisational performance (OP). The data were analysed using confirmatory factor analysis (CFA), structural equation modelling (SEM), panel data regression modelling and growth curve analysis. We highlight three main findings generated from this study. First, this study confirms that all five latent variables correlate positively with one other under the BSC framework. Second, with regard to the organisation factor, we find that the BSC is likely to be implemented in small public-sector organisations and that employees holding strategic positions are likely to implement the BSC. Lastly, the study finds that the BSC has mixed results with public service motivation (PSM) and organisational commitment (OC) at the employee levels and positive results with OP. The implications of the study are discussed in relation to the relevance of the BSC approach to public-sector organisations in Indonesia.

DECLARATION

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Papers Presented

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Acknowledgements

List of Abbreviations

AVE	Average Variance Extracted
BSC	Balanced Scorecard
CEO	Customs and Excise Office
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
DGCE	Directorate General of Customs and Excise
ICEA	Indonesian Customs and Excise Administration
MoF	Ministry of Finance
MSO	Main Service Office
OC	Organization Commitment
OP	Organizational Performance
PMS	Performance Management System
PSM	Public Service Motivation
RMSEA	Root Mean Square of Error of Approximation
SEM	Structural Equation Modelling
SFO	Strategy Focused Organization
SRMR	Standardized Root Mean Residual
TLI	Tucker Lewis Index
UNDP	United Nations Development Program
WB	World Bank

Chapter 1: Introduction

1.1 Introduction

This first chapter aims at giving an overall picture of what this thesis is about. It begins with the explanation of the research background, which briefly discusses performance management as one aspect of public-sector reform. This chapter also identifies the research problem, which takes place in the context of the Ministry of Finance (MoF) of Indonesia. This chapter states the research aim and research objectives, as well as the research setting. In terms of the research design, this research employs a cross-sectional design and a longitudinal design. The cross-sectional design was conducted using survey questionnaires, which were distributed to the participants from twelve customs and excise organisations across four provinces in Indonesia. Meanwhile, the longitudinal design relates to the organisational performance (OP) data, which cover eight years of state revenue collection and four years of customer satisfaction index results.

This chapter starts with the introduction, which is followed by the background of the research, briefly describing the public-sector reform, performance management and the BSC concept. Subsequently, the statement of the problem is underpinned with an explanation of the conditions before the commencement of this study. The next sections present the aim and objective of the research. This chapter then introduces the research setting, followed by the research design and research strategy. The following section discusses data analysis and provides information regarding the types of analytical tools that are used in this thesis. The significance of the study is then explained, offering ideas as to the significant contributions that this study may make. The final section of this chapter reveals the structure of the thesis and provides the highlights of each of its ten chapters as a guide to the contents of this thesis.

1.2   Background of the research

Public expectation of the services provided by the government increases over time. This situation occurs in almost every country in the world. Therefore, government institutions around the world continuously improve their performance. With the dynamic challenges of globalization and increasing demand for and expectations of services, each government must continuously improve its ability to reach better effectivity and efficiency so that fulfilment of national targets to better society can be achieved. Tanzi (2000) stated that "an efficient public-sector should be able to achieve the state's objectives with a minimum degree of distortion of the market, the lowest possible burden of taxation on the taxpayers, the fewest possible public employees and the lowest possible absorption of economic resources by the public-sector. The public-sector must be transparent in its processes and transparent in its outcomes". According to the World Bank (WB) (2008), "effectiveness and efficiency of a country's public-sector is vital to the success of development activities, sound financial management, an efficient civil service and administrative policy, efficient and fair collection of taxes, and transparent operations. When these are relatively free of corruption, they all contribute to good delivery of public services". Two previous elaborations by the WB (2008) and Tanzi (2000) indicate relatively similar aspects: that the public-sector should apply the principles of transparency and accountability in its efforts to serve the public's needs. It is, therefore, inevitable that the public demands improvement by means of reform of the public-sector. Regarding a reform agenda, Pollit and Bouckaert (2004, p. 18) have stated that over the last two decades, in many countries, almost every public-sector organisation has been influenced to some extent by reforms. Similarly, Pal and Ireland (2009) have pointed out that public-sector reform has become a routine agenda of public policy in both developed and developing countries. However, in terms of reform focus, the challenges faced by developed and developing countries may differ in some respects such as the social, economic, political, legal and cultural contexts (Chittoo et al. 2009). Existing conditions, however, do not

impede the enthusiasm of countries with emerging economies for the adoption of good governance characteristics. According to the United Nations Development Program (UNDP 1997), these characteristics include participation, rule of law, transparency, responsiveness, consensus orientation, equity, effectiveness and efficiency, accountability and strategic vision.

One of the areas that has experienced great changes due to the process of public management reform is performance management. Public-sector organisations' focuses regarding reform strategies have experienced changes over time, from the controlling of process activities to a much broader perspective known as outcome-based performance management. With regards to this issue, van Thiel and Leeuw (2002) note that results-based management is popular at all levels of public institutions: local, regional, national and supranational. Public-sector organisations are now making greater efforts to determine and assess their performance (van Thiel and Leeuw 2002; Pollitt and Bouckaert 2004). According to Weibel et al. (2009), public-sector reforms are marked by the adoption of management practices that were initially developed for the private sector, for instance, budgeting techniques, market analysis and performance management. However, it must be considered that implementing such business-like management principles is not an easy task due to the attributive differences between private sector and public-sector; inevitably, then, some adjustments are required (Greatbanks and Tapp 2007).

Verbeeten (2008) points out that most Western countries have endorsed several initiatives to encourage adoption of performance management practices in public-sector administrations including central government, local governments and other public-sector organisations such as hospitals, educational institutions, and police forces. Furthermore, Verbeeten summarizes the four purposes of adopting performance management as follows: firstly, the definition of clear missions, objectives and targets helps each employee understand what the organisation

wants and provides focus in operations. Secondly, by measuring performance regarding the objectives and targets, politicians and public managers should be able to tell the public for what purposes their money is being used (transparency/accountability purpose). Thirdly, public-sector organisations may use performance measurement to learn and to improve performance (learning purpose). The transparency created by measuring performance may indicate where the organisation excels and where improvements are necessary. Fourthly, performance measurement systems may provide the basis for compensation of public government officials (appraising purpose). A careful specification and monitoring of performance, along with a set of incentives and sanctions, can be used to ensure that public-sector managers continue to act in society's interest. This elaboration of performance management succeeds in combining benefits both inside and outside an organisation; however, it would be more comprehensive if it were also to support a clear explanation of the link between performance management and other fields of management such as talent pool management, remuneration, and other potentially related issues.

Likewise, Heinrich (2002) posited that a requirement for outcomes-based performance management is the increasing of performance evaluation activities at all government levels. Heinrich states that the use of performance management techniques and tools has been growing in sophistication. As explained by Kaplan (2009), the measurement of OP has also experienced developments; many systems have been introduced, such as General Electric Metric, Management by Objectives, Just in Time, Malcolm Baldrige and BSC. Among other concepts, BSC is undeniably one of the most influential innovations contributing to the transformation of contemporary management accounting discourse and practice since its emergence in the early 1990s (Modell 2012). Since its introduction by Kaplan and Norton (1992), the adoption of BSC has spread widely throughout developed and developing countries and in both the private and public-sectors. Initially known as a performance measurement system, the BSC concept has

experienced massive evolution to become an integrated PMS that manages to link the strategies and objectives of the organisation and individuals.

Since its introduction by Kaplan and Norton (1992) and following its evolution to a new comprehensive management system, as explained in a series of subsequent studies by the authors (Kaplan and Norton 1993, 1996a, 1996b, 1996c, 2000, 2001a, 2001b, 2001c, 2004a, 2004b, 2006a, 2006b), there has been extensive research into the implementation of the BSC in the private and public-sectors of developed countries. Despite the fact that implementation of the BSC in public-sector organisations has faced many challenges, many public-sector organisations adopt the BSC as their PMS (Griffiths 2003; Chan 2004; Greatbanks and Tapp 2007; Greiling 2010; Nilsson 2010; Northcott and Taulapapa 2012; Dreveton 2013).

The present study focuses on the implementation of BSC in the public-sector of a developing country, specifically the MoF of Indonesia, which has implemented the BSC approach as its PMS. The implementation of the BSC as the PMS in the MoF is part of a public-sector reform strategy to enhance performance, service quality delivery and public trust (*three pillars of bureaucratic reform* 2007). Moreover, the MoF has become a model of public-sector reform for other ministries and government agencies. Many ministries and government agencies are duplicating the MoF's implementation of the BSC system in their own organisations. One of the bureaucratic reform programs that has been transferred to other ministries and other government agencies is the implementation of BSC.

The BSC was introduced to replace the performance appraisal system with a PMS. Before implementing the BSC in 2009, the Indonesian Directorate General of Customs and Excise (DGCE) had already applied a performance appraisal system, the so-called "DP3" (list of job implementation assessments), based on Government of Indonesia Rule PP 10 (1979). In the DP3 system, employee performance was measured by the direct supervisor, focusing on eight elements

to be assessed: loyalty, work performance, responsibility, obedience, honesty, cooperation, initiative, and leadership. Meanwhile, organisation performance was measured using the *Laporan Kinerja Instansi Pemerintah* (Performance Accountability Report of Government Agencies) (LAKIP) form. Performance appraisals for both employees and the organisation as a whole were conducted once annually, at the beginning of January of the new fiscal year. Several strategic changes from the employee perspective have taken place; for instance, performance indicators are aligned with the organisational objectives, a performance dialogue system has become available, a three-month review system has been instituted, and incentive-based performance has been introduced. Meanwhile, from the organisational perspective, the changes include: the use of a strategy map as a template to place all strategic objectives together with the key performance indicators (KPIs) and organisational targets within one fiscal year, the cascading of strategy and KPIs to employees, and the initiation of monthly performance review meetings led by the organisational head. Thus, the BSC concept has brought massive changes in the way organisational and individual performance is measured. The study of the BSC implementation in the DGCE offices may generate findings that could serve as lessons learned for the DGCE and other relevant public-sector organisational settings.

1.3   Statement of the problem

Performance management based on the BSC system has been widely implemented in Indonesia's MoF. Application of the BSC system began in 2008 at the ministerial level as part of the bureaucratic reform program and was then extended to lower levels, reaching the staff level at 2011. Since 2011, then, the traditional individual performance system has been replaced by the BSC system. This new PMS has had an effect on both the organisation and the employees; there have been critical changes for the employees and the organisation alike. For instance, employee performance is now measured based on strategic objectives, which are directly or indirectly related to the organisational strategic objectives; in addition, the organisation and employees are being assessed in real time.

Despite the massive implementation of the BSC within the MoF, it is still unknown exactly how the implementation of the BSC framework affects the employees and the organisation. The assessment of performance management based on the BSC in public-sector organisations can be viewed from at least four aspects. The first of these is whether the public-sector organisation is applying the BSC effectively. This is to check whether the practice of the BSC within the organisation has followed the strategy focused organisation (SFO) principles as stated by its authors (Kaplan and Norton 2001c). The second point to examine is the extent to which organisational factors such as organisation size and employee's roles are associated with the BSC. The Indonesian Directorate General of Customs and Excise encompasses organisations of various sizes (large and small), a factor that might influence the BSC. Third, it is important to know how the BSC might affect employees' professional behaviour, an element on which this study focuses in terms of two subjects, organisational commitment (OC) and public service motivation (PSM). Fourth, apart from exploring its effect on employees, the conducting of a holistic research on BSC implementation requires an examination of how the BSC may affect the OP; this is because the nature of the BSC helps the organisation to stay focused on its strategic objectives. Thus, the current study provides an opportunity to seek investigate the four abovementioned aspects.

1.4 Aim of the research

The main aim of this research is to explore the implementation of balanced scorecard as a performance management system within public-sector organisations in Indonesia with a view to clarifying the nature of balanced scorecard practices and their relationship to organisational factors, organisational performance and employee behaviour.

1.5 Objectives of the research

Given its main aim as stated above, the present study intends to achieve the following objectives:

i.   Explore the theoretical perspectives of balanced scorecard in order to identify the key success factors of balanced scorecard implementation;

ii.   Review balanced scorecard practices in order to clarify organisational factors that affect the balanced scorecard as well as the ways in which the balanced scorecard implementation affect employee behaviour and organisational performance;

iii. Develop a conceptual framework of balanced scorecard implementation in the public-sector organisation to describe the relationship between organisational factors and the balanced scorecard and define the ways in which its implementation contributes to employee behaviour and organisational performance; and

iv.   Test and examine the conceptual framework in order to discover the extent to which organisational factors influence the implementation of the balanced scorecard and the extent to which balanced scorecard implementation relates to employee behaviour and organisational performance within the public-sector organisational context.

1.6 Research setting

This study took samples from the Directorate General of Customs and Excise (DGCSE) under the MoF of Indonesia. The sample includes twelve offices (three large and nine small organisations) from four provinces in Indonesia: Kepulauan Riau, Banten, DKI Jakarta and Jawa Barat (West Java). These were selected to represent 120 customs and excise service offices across the nation. The justification for the selection is presented in Chapter 5 (Research and Methodology).

1.7 Research design

According to Bryman's (2015) classification of research design, this study applies a cross-sectional and longitudinal design. The design is cross-sectional in that the study examines the correlation between BSC implementation and organisational commitment and public service motivation within the twelve public-sector organisations using research questionnaires. The research questionnaires were circulated once, during the fieldwork period, to 1,969 employees at the twelve respondent organisations. In addition, the current study investigates the association of the BSC with organisational performance through the use of longitudinal data. The organisational performance data used are state revenue contribution documents (2009 to 2016) and customer satisfaction indices (2013 to 2016).

1.8 Research strategy

This study was carried out using a quantitative strategy. There are two reasons for choosing a quantitative strategy for this research. First, the current study implements a quantitative study because it uses a deductive approach to test the theory or concept of the BSC, SFO principles, OC and PSM (Bryman 2015). Second, the paradigm orientation of this study (positivism) corresponds to a quantitative strategy (see Collis and Hussey 2014, p. 46).

1.9 Data analysis

Based on the characteristics of the analysis, the present study employs four analytical techniques and tools:

- Confirmatory factor analysis (CFA): to evaluate the implementation of the BSC based on the SFO principles;

- Structural equation modelling (SEM): to examine the influence of organisation size and strategic employees' roles on the BSC, as well as the association of the BSC with OC and PSM.

- Panel data regression analysis: to examine the associated effect of BSC implementation on OP using eight years' worth of data on state revenue collection;

- Growth curve analysis: to examine the trend of stakeholders' perspectives after the implementation of the BSC using four years' worth of customer satisfaction survey results.

1.10 Significance of the study

An enormous number of private and public-sectors have been adopting the BSC as their PMS (Model 2012). However, as confirmed by Hoque (2014), the existing literature provides limited insights regarding implementation of the BSC as a performance management tool within the context of emerging economies' public-sectors. This study is probably the first attempt to examine the practice of using the BSC holistically as a performance management tool in public-sector organisations in country with an emerging economy. The fact that performance management based on the BSC had been implemented for eight years for large organisations (since 2009) and seven years for small organisations (since 2010) by the time the fieldwork was conducted in the responding organisations enables this research to offer more insights into BSC practice in this context. Thus, this study might also prove relevant as a response to Hoque (2014), who posited the need for research on the BSC in public-sector organisations in an emerging economy.

Furthermore, the findings will be useful not only for the MoF but also for other ministries and other government agencies in Indonesia, as the practice of the BSC system has also become the model for the PMSs used by other ministries and other government agencies.

With regard to organisation size, most previous studies focusing on the BSC in public-sector organisations were conducted in small organisations (see for instance Griffiths 2003; Greatbanks and Tapp 2007). Another group of studies was conducted in local governments within one or even two countries (see for instance Kloot and Martin 2000; Chan 2004; Wisniewski and Olaffson 2004) but took place within a single organisation. The current study, however, took samples from twelve DGCE offices, of which three are classified as large and nine as small organisations, because this study also investigates the ways in which organisation size affects the implementation of the BSC. Hence, this study contributes to the existing body of knowledge as the first study to examine the influence of organisation size on BSC implementation within the context of a public-sector organisation.

To the best of our knowledge, to this point, the study of BSC implementation has involved solely high-level positions, performance managers or middle management levels within the organisations studied (see for instance Hoque and James 2000; Kloot and Martin 2000; Chan 2004; de Geuser et al. 2009). In our opinion, however, research into BSC implementation should also involve lower-level management and staff given that it is they who in fact employ the BSC in their daily professional activities. As posited by Kaplan (1996c), the BSC concept applies top-down approaches during the planning phase, but the system becomes a bottom-up process during the execution of the strategy. The present research applied purposive sampling in which the samples were drawn from all levels of the organisations considered in order to get a more comprehensive picture of BSC implementation. This research involved research participants from the lowest

echelons of organisational staff because the twelve DGCE offices have applied the BSC as a performance management system to the individual level in all twelve respondent organisations. This is thus the first BSC implementation study to incorporate participants from all organisational levels.

This study uses a new approach to simultaneously examining the effect of the BSC on employees' and on organisations' perspectives. With regard to the former, this study examines how implementation of the BSC affects employees' professional behaviour in terms of OC and PSM. With respect to the latter, this study employs two variables as OP indicators: state revenue collection and customer satisfaction index. These two variables represent two elements of performance: state revenue collection represents internal effort; meanwhile, the customer satisfaction index denotes external views regarding organisational performance. In addition, both datasets are available over a period of several years (longitudinal data). Thus, this study is able to analyse the trend of OP in a more complete way as it provides the trend of OP (from the customer satisfaction index) and a before-and-after perspective of the implementation of the BSC (from state revenue collection), which offers more information about the degree to which the BSC affects OP.

1.11 Structure of the thesis

The thesis is divided into ten chapters. Chapter 1 sets the foundation of the thesis, starting with the background of the study and followed by the identification of the research problems, the aim and objectives of the research, the research setting, research design, research strategy, data analysis, and the contribution and significance of the research that the thesis seeks to provide. Chapter 2 presents the setting of this study, which was conducted in Indonesia, a country with an emerging economy. This chapter also describes the characteristics of the twelve case study organisations as well as BSC practices.

Chapter 3 reviews the BSC literature. It starts with the process of public-sector reform, together with public management and the choice of the BSC as a PMS to help public organisations fulfil their strategic objectives. This chapter includes BSC evolution, BSC implementation, BSC practices in public-sector organisations, and consequences of BSC implementation. Chapter 3 also identifies the research gap that engendered the idea of how this study could contribute to the research and supplement the existing literature.

Chapter 4 presents the main elements that contributed to the construction of the conceptual framework used in this study. The principal aspects discussed are the SFO model, organisation size, employee roles, OC, PSM and OP. This conceptual framework guided the present study by generating the research questions that link to the objectives of the study. Chapter 5 explains the research methodology that provided the philosophical orientation of the study and its justification of the quantitative methods used. The responding organisations involved in the present research are introduced in detail in this chapter. This chapter also reports on the pilot study process and its results. In addition, Chapter 5 explains the primary data collection from twelve customs and excise organisations from nine cities in four regions in Indonesia.

Chapter 6 is the first chapter on this study's findings. It focuses on providing answers to the first three research questions. The chapter presents empirical evidence regarding the extent to which BSC approaches have been effective in isolating SFO principles within the civil service in Indonesia; these findings aid in determining the association of organisational size and employee roles with BSC implementation. Chapter 7 is the second chapter discussing our findings. It examines three relationships: first, the relationship between BSC implementation and organisational commitment (OC); second, the relationship between BSC implementation and public service motivation (PSM); and third, the relationship between OC and PSM. Chapter 8 is the third and last of the chapters discussing

this study's findings. This chapter explores the relationship between BSC implementation and OP using two performance indicators as organisational performance variables: state revenue collection and customer satisfaction index.

Chapter 9 provides a discussion of the results of the quantitative findings from Chapters 6, 7 and 8. The discussion of all findings is constructed in such a way that the process included revisiting the research instrument, linking with previous studies, and looking at the context of the responding organisations. Chapter 10 is the final chapter of the thesis. This chapter concludes the study by presenting a summary of its main findings; postulating its research contribution in terms of theoretical and managerial contribution; providing directions for future research; and specifying the limitations of the study. Chapter 10 ends with personal reflection on the PhD journey.

Chapter 2: Context of the Study

2.1 Introduction

This chapter aims at providing contextual information that is relevant to the present study. The description of the implementation of performance management based on BSC within the context of this study is important given that the practice of BSC itself is likely to differ between one setting and another (Lueg and Carvalho e Silva 2013, cited in Madsen and Stenheim 2015). A portrayal of the research setting is thus essential for achieving an understanding of the finding generated by the current study.

This chapter starts with an overview of the country research setting, Indonesia, from the perspective of its geography, population, economy and governmental system. Subsequently, this chapter provides a brief description of the Indonesian MoF and its bureaucratic reform program as well as of PMSs based on the BSC. The succeeding section explains the implementation of the BSC within the DGCE. Next, the profile of each unit of analysis is presented, which also elucidates the cascading stages of the BSC process from the head of organisation to the staff level. This chapter ends with a chapter conclusion which reviews its key points.

2.2 An overview of the Indonesian context

Following is a brief description of Indonesia's geography, population, economy and governmental system.

2.2.1   Geographical context

The Republic of Indonesia, commonly known as Indonesia, is a country in Southeast Asia that lies on the equator; it is situated between the Asian and Australian continents and between the Pacific and Indian Oceans. Figure 2.1 below is a map of Indonesia; it clearly shows Indonesia's position between two continents and two oceans as well as Indonesia's neighbouring countries.

Consisting of 17,508 islands, with an area of 1,904,569 square kilometres, Indonesia is the largest archipelagic country in the world. Of its 17,508 islands, five are large islands: Sumatra, Java, Kalimantan, Sulawesi and Papua. Indonesia had 34 provinces with 505 districts as of December 2013 (Ministry of Home Affairs, 2013); its capital city is Jakarta (located on Java Island).

Figure 2.1 Map of Indonesia

Source:

http://www.worldatlas.com/webimage/countrys/asia/lgcolor/idcolor.htm

2.2.2 Population

Indonesia is the most populous country in Southeast Asia and the fourth most populous in the world. According to the results of the Statistics Indonesia (2010) conducted by the Indonesia Statistics Board, the total population in 2010 was 237,641,326. The United Nations projects that by 2050, two thirds of Indonesia's population will live in urban areas. Over the last forty years, the country has experienced a process of rapid urbanization, resulting in the current situation in which over half of Indonesia's total population resides in urban areas, especially on Java Island. From an economic perspective, this constitutes a positive

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development as urbanization and industrialization are necessary in order for Indonesia to join the ranks of the world's middle-income countries.

Indonesia's ethnic composition is characterized by wide variety as the country contains hundreds of different ethnic groups and cultures. However, more than half of the population can be classified as belonging to the two main ethnic groups: Javanese (41 percent of the total population) and Sundanese (15 percent of the total population). Both of these groups originate from the island of Java, Indonesia's most populous island, which encompasses roughly 57.48% of the country's total population (Census Report 2010). When the island of Sumatra is included, this figure rises to approximately 78.79% of Indonesia's total population, indicating a significant population concentration in the western part of the country (Statistics Indonesia 2010). Overall, the most populous province is West Java (with more than 43 million people); the least populous province is West Papua, in the far eastern region of Indonesia, with approximately 760,000 people (Statistics Indonesia 2010).

2.2.3 Economic context

Indonesia is well recognized for its natural resources, including crude oil, natural gas, tin, copper and gold. In addition, Indonesia is known for its agriculture products, which include rice, coffee, rubber, tea and palm. According to a World Bank (2014), Indonesia is the tenth largest economy in terms of purchasing power parity, Indonesia is also a member of the prestigious Group of Twenty major economies (G-20), which consists of the 19 countries with the most important economies and the European Union. Regarding global competitiveness, Indonesia is in 38th position, having progressed 19 places since the issuing of the previous report (Global Competitiveness Index 2013-2014).

2.2.4   Governmental system

Indonesia is the third largest democratic country in the world after the USA and India. As in other democratic countries, the Indonesian political system recognizes the separation of the legislative, executive and judicial powers. The legislative power is vested in the People's Consultative Assembly, which consists of two houses: the House of Representatives composed of representatives of political parties, and the Regional Representatives Council, composed of representatives from each province in Indonesia. Each province is represented by four delegates who are elected by the people in their respective regions. The People's Consultative Assembly was previously the highest state institution. However, in the Fourth Amendment of the 1945 Constitution, the Consultative Assembly was relieved of that position. The membership of the Consultative Assembly was then modified after the 1999-2004 period to include not only the members of the House of Representatives but also the members of the Regional Representatives Council. The members of the House of Representative members and the Regional Representatives Council are elected every five years. Since 2004, the Consultative Assembly has become a dual parliament with the Regional Representatives Council as its second chamber. Previously, members of the Consultative Assembly were all members of the House of Representatives in addition to representatives of groups. The Consultative Assembly is composed of 550 members of the House of Representatives and 128 members of the Regional Representatives Council. The executive office is centralized to the president, vice president, and the cabinet of ministers. (Globalsecurity.org 2018).

With regard to the number of ministries in the cabinet, there have been some changes over time, and these are dependent upon the president in office. The current cabinet ministries total 34 departments (Presidential Regulation 121/2014). Similar to other emerging countries, Indonesia also faces great challenges to improve public-sector performance. The Government of Indonesia

has taken strategic steps to improve the public-sector quality in a series of public-sector reform programs. In order to unite and coordinate all public-sector programs, the Government of Indonesia introduced the Grand Design of Bureaucratic Reform for 2010–2025. This gives the Ministry of Administrative and Bureaucratic Reform (*Kemenpan-RB*) a mandate to lead the public-sector reform process in Indonesia (Presidential Regulation 81/2010). However, the MoF has been carrying out the reform over a longer period since 2002. This reform has focused on three major strategies. The first is the enactment of three packages of three laws regarding State Finance (17/2003), the State Treasury (1/2004) and the Audit of State Financial Management and Accountability (15/2004). The second is the separation of functions of budget preparation and budget execution. The third strategy is the establishment of the Large Tax Office as part of the modernization of tax administration. After the first period of the reform process (2002–2006), the MoF launched a massive bureaucratic reform program with the so-called *Tiga pilar reformasi birokrasi* (three pillars of bureaucratic reform), which cover organisation, business process and human resource from 2007 to the present. Along with these three bureaucratic pillars, the MoF also introduced a PMS based on the implementation of the BSC, replacing the 'traditional' performance measurement system in order to assure the successful enactment of the programs based on the three pillars of bureaucratic reform. As the MoF is the pioneer in Indonesian bureaucratic reform, its reform programs have been widely adopted by other public-sector organisations. The implementation of the BSC as a PMS is one of the themes that has provided a benchmark for other ministries, institutions, local governments, and state-owned enterprises.

2.3   The implementation of the BSC in the Ministry of Finance

The MoF is the largest ministry in Indonesia's Cabinet Ministry, with more than 70,000 employees. It consists of 11 units at the highest level, Echelon 1: the Secretary General, Inspectorate General, Directorate General of Tax, Directorate General of Customs and Excise, Directorate General of Budget, Directorate General of Treasury, Directorate General of State Asset, Directorate General of Fiscal Balance, Directorate General of Budget Financing Risk and Management, Fiscal Policy Agency and Financial Education and Training Agency. Among the units in this first echelon, four have vertical (regional) units in 34 provinces. They are the Directorate General of Tax, Directorate General of Customs and Excise, Directorate General of Treasury and Financial Education and Training Agency.

The BSC as PMS was applied gradually in the MoF. It was first applied at the ministerial level (*Kemenkeu wide*) in 2009 and then cascaded to the Echelon 1 level (*Kemenkeu-one*) (Finance Minister Decree 87/2009). In the following year, BSC implementation cascaded to the Echelon 2 (*Kemenkeu-two*) and Echelon 3 (*Kemenkeu-three*) levels (Finance Minister Decree 12/2010). In the following year, 2011, BSC implementation cascaded from Echelon 3 to the staff level (Minister of Finance Regulation 454/KMK.01/2011). To ensure that the implementation between all units of Echelon 1 reach the same standard, the Minister of Finance mandated the Strategy Management Office (PUSHAKA) to coordinate the implementation process across all units in the MoF. Considering the year of implementation, the cascading process of BSC implementation was very fast. It took only three years of (from 2009 to 2011) to implement the BSC from the organisational level to the individual level.

Although the cascading process was followed by massive internalization and socialization within the organisation and was also guided intensively by the Strategy Management Office (PUSHAKA) during the cascading process, there was

no review to determine whether the implementation of the BSC had been performed according to its creators' (Kaplan and Norton) suggestions. An assessment of the contribution of the BSC implementation to the accomplishment of the organisation's strategic objectives was likewise omitted. Meeting organisational goals, however, was the main consideration leading to the adoption of the BSC. With regard to the evaluation of the public-sector agenda, in 2012, the National Reform Body (a task force under the supervision of the Vice-President's Office) conducted a review of the MoF as it had been the pioneer of public-sector reform. The samples were chosen from the Directorate General of Customs and Excise. The results of the review concluded that the bureaucratic reform process was on the right track. Thus, in order to evaluate the implementation of the BSC, this research likewise took samples from Directorate General of Customs and Excise.

2.4 Context of the study

The Directorate General of Customs and Excise (hereafter referred to as DGCE) consists of 120 vertical offices spread across 34 provinces (MoF Regulation Number 206.3/PMK.01/2014). Alongside the other Echelon 1 units in the MoF, the DGCE began, at the organisational level, implementing performance management based on the BSC in 2009. Then, over the following two years, the implementation of the BSC was cascaded to lower levels, gradually, reaching the staff levels in 2011.

Before implementing the BSC system, performance measurement within the DGCE used the aforementioned DP3 system (list of job implementation assessments). As described in Chapter 1, this assessment system was subjective in that there were no specific performance indicators attached to the DP3 system; the assessment system was therefore based merely on the subjective views of an employee's direct supervisor. The introduction of the BSC system at the individual level has brought drastic changes in the assessment system, because in contrast

to the DP3 system, every employee is now evaluated based on key performance indicators along with the targets that are directly or indirectly related to the organisation's strategic objectives.

At the beginning of the fiscal year, all DGCE employees sign a performance contract together with their direct supervisors (for instance, in MSOs in the DGCE, Echelon 3 employees sign with the head of the MSO). The performance contract comprises organisational strategic objectives, key performance indicators (KPIs) and the target of the KPIs for the period of one fiscal year. The performance contract is reviewed every six months, and during the review, a performance dialogue system is also provided to support the employees in reaching the performance targets.

For the purposes of this study, the researcher selected twelve CEOs as respondent organisations: the Main Service Offices (MSOs) of Tanjung Priok, Batam, and Soetta and the Customs and Excise Offices (CEOs) of Jakarta, Marunda, Merak, Tangerang, Bekasi, Bogor, Purwakarta, Cikarang, and Bandung. In the following subsections, brief descriptions of the characteristics of each of the twelve offices are provided.

2.4.1   MSO, Tanjung Priok

The MSO of Tanjung Priok is the largest office in the Directorate General of Customs and Excise. This main office is situated at the Port of Tanjung Priok in the northern part of Jakarta, the capital city of Indonesia. The port of Tanjung Priok is the largest seaport in Indonesia and is responsible for roughly 70% of Indonesia's import and export activities (Ginting et al. 2015; Pang and Gebka 2016). The main task of this office is to serve, control and conduct audits within the context of customs and excise matters covering the port area of Tanjung Priok (MoF Regulation 68/PMK.01/2007).

The MSO of Tanjung Priok is headed by an Echelon 2 (director-level) employee, who is responsible for ten Echelon 3 (middle manager-level), 145 Echelon 4 (first-line manager-level), and 1,016 staff-level employees. With regards to BSC implementation, at the time the fieldwork for this thesis was conducted, the BSC had been in place for eight years at the organisational level (since 2009). In 2010, the implementation of the BSC cascaded to lower levels (Echelon 3). The year after that, BSC implementation cascaded to Echelon 4 and all staff levels. Thus, in 2011, the MSO of Tanjung Priok implemented the BSC within all levels of the organisation (to the individual level).

2.4.2 MSO, Batam

The MSO of Batam is situated in the city of Batam within the province of Kepulauan Riau. The main task of this office is to serve, control and conduct audits within the context of customs and excise matters in the area of the Batam Free Trade Zone (MoF Regulation 168/PMK.01/2012). The MSO of Batam is headed by an Echelon 2 employee, with seven Echelon 3, 24 Echelon 4 and 257 staff-level employees. As with the MSO of Tanjung Priok, BSC implementation in Batam began in 2009, or eight years prior to the conducting of the fieldwork for this thesis and cascaded gradually to the lower and individual levels in 2010 and 2011.

2.4.3 MSO, Soetta

The MSO of Soetta is situated in the airport area of Soekarno-Hatta International Airport in the province of Banten. The main task of this office is to serve, control and conduct audits within the context of customs and excise matters covering the area of Soekarno-Hatta International Airport (the busiest international airport in Indonesia). The MSO of Soetta is headed by an Echelon 2 employee together with six Echelon 3, 59 Echelon 4 and 622 staff-level employees. The BSC was implemented organisationally in 2010, or seven years prior to the conducting of the fieldwork for this thesis. Later in 2010, the implementation of the BSC was cascaded to Echelon 3. In the following year, BSC implementation cascaded to

Echelon 4 and all staff levels. As of 2011, then, the MSO of Soetta had implemented the BSC within all levels of the organisation (to the individual level).

2.4.4   CEO, Marunda

The CEO of Marunda is situated in the northern part of Jakarta, within the province of Banten. The main task of this office is to serve, control and conduct audits within the context of customs and excise matters covering the Sunda Kelapa seaport and bonded zones around Marunda (MoF Regulation 206.3/PMK.01/2014). The CEO of Marunda is headed by an Echelon 3 employee and also employs 16 Echelon 4, 40 Echelon 5, and 116 staff-level employees. The BSC was implemented organisationally in 2010, or seven years prior to the conducting of the fieldwork. In 2011, BSC implementation cascaded to echelon 4 and all staff levels. As of 2011, the CEO of Marunda was thus implementing the BSC at all levels of the organisation (to the individual level).

2.4.5   CEO, Jakarta

The CEO of Jakarta is situated in the eastern part of Jakarta, within the province of DKI Jakarta. The main task of this office is to serve, control and conduct audits within the context of customs and excise matters covering the Halim Perdana Kusumah and bonded zones around Jakarta (MoF Regulation 206.3/PMK.01/2014). The CEO of Jakarta is headed by an Echelon 3 employee, with 16 Echelon 4, 57 Echelon 5 and 101 staff-level employees. As for BSC implementation, it took place organisationally in 2010, or seven years prior to the conducting of the fieldwork. The year after that, BSC implementation cascaded to Echelon 4 and all staff levels. Thus, in 2011, the CEO of Jakarta was implementing the BSC at all levels of the organisation (to the individual level).

2.4.6   CEO, Merak

The CEO of Merak is situated in the city of Cilegon in the province of Banten. The main task of this office is to serve, control and conduct audits within the context of customs and excise matters covering the area of the Merak international seaport (MoF Regulation 206.3/PMK.01/2014). The CEO of Merak is headed by an Echelon 3 employee who is responsible for 13 Echelon 4, 37 Echelon 5 and 48 staff-level employees. The BSC was implemented organisationally in 2010, or seven years prior to the conducting of the fieldwork. In the year after that, BSC implementation was cascaded to Echelon 4 and all staff levels. Thus, in 2011, the CEO of Merak implemented the BSC within all levels of the organisation (to the individual level).

2.4.7   CEO, Tangerang

The CEO of Tangerang is situated in southern part of the city of Tangerang, within the province of Banten. The main task of this office is to serve, control and conduct audits within the context of customs and excise matters covering the area of customs bonded zones under the jurisdiction as stipulated in MoF Regulation 206.3/PMK.01/2014. The CEO of Tangerang is headed by an Echelon 3 employee responsible for 13 Echelon 4, 37 Echelon 5 and 48 staff-level employees. The BSC was implemented organisationally in 2010, or seven years prior to the conducting of the fieldwork. The year after that, the BSC implementation cascaded to Echelon 4 and all staff levels. Thus, in 2011 the CEO of Tangerang implemented the BSC within all levels of the organisation (to the individual level).

2.4.8   CEO, Bekasi

The CEO of Bekasi is situated in the Bekasi Regency in the province of West Java. The main task of this office is to serve, control and conduct audits within the context of customs bonded zones under the jurisdiction as stipulated in Minister of Finance Regulation 206.3/PMK.01/2014. The CEO of Bekasi is headed by an Echelon 3 employee along with 16 Echelon 4, 75 Echelon 5 and 159 staff-level

employees. The BSC was implemented organisationally in 2010, or seven years prior to the conducting of the fieldwork. In 2011, BSC implementation cascaded to Echelon 4 and all staff levels. Thus, in 2011, the CEO of Bekasi implemented the BSC within all levels of the organisation (to the individual level).

2.4.9 CEO, Bogor

The CEO of Bogor is situated in the Bogor district in the province of West Java. The main task of this office is to serve, control and conduct audits within the context of customs bonded zones under the jurisdiction as stipulated in Minister of Finance Regulation 206.3/PMK.01/2014. The CEO of Bogor is headed by an Echelon 3 employee working with 15 Echelon 4, 52 Echelon 5 and 125 staff-level employees. The BSC was implemented organisationally in 2010, or seven years prior to the conducting of the fieldwork. In the following year, BSC implementation cascaded to Echelon 4 and all staff levels. In 2011, then, the CEO of Bogor implemented the BSC at all levels of the organisation (to the individual level).

2.4.10 CEO, Purwakarta

The CEO of Purwakarta is situated in the Purwakarta district, which is in the province of West Java. The main task of this office is to serve, control and conduct audits within the context of customs bonded zones under the jurisdiction as stipulated in Minister of Finance Regulation 206.3/PMK.01/2014. The CEO of Purwakarta is headed by an Echelon 3 employee and is additionally staffed by 16 Echelon 4, 50 Echelon 5 and 76 staff-level employees. The BSC was implemented organisationally in 2010, or seven years prior to the conducting of the fieldwork. The year after that, BSC implementation cascaded to Echelon 4 and all staff levels. Thus, in 2011 the CEO of Purwakarta implemented the BSC within all levels of the organisation (to the individual level).

2.4.11 CEO, Cikarang

The CEO of Cikarang is situated in Bekasi Regency in West Java. The main task of this office is to serve, control and conduct audits within the context of customs bonded zones under the jurisdiction as stipulated in Minister of Finance Regulation 206.3/PMK.01/2014. The CEO of Cikarang is headed by an Echelon 3 employee supervising 16 Echelon 4, 49 Echelon 5 and 114 staff-level employees. Performance management based on the BSC was directly applied at all levels, including the individual level, when the office was first established in 2015.

2.4.12 CEO, Bandung

The CEO of Bandung is situated in Bandung Regency in West Java. The main task of this office is to serve, control and conduct audits within the context of customs bonded zones and Husein Sastranegera International Airport, under the jurisdiction as stipulated in Minister of Finance Regulation 206.3/PMK.01/2014. The CEO of Bandung is headed by an Echelon 3 employee working with 15 Echelon 4, 48 Echelon 5 and 79 staff-level employees. The BSC was implemented organisationally in 2010, or seven years prior to the conducting of the fieldwork. The year after that, BSC implementation cascaded to Echelon 4 and all staff levels. Thus, in 2011 the CEO of Bandung implemented the BSC within all levels of the organisation (to the individual level).

2.5 Chapter summary

The aim of this chapter was to present the research context for this thesis. This chapter highlights that the present study was conducted in an emerging economy, that of Indonesia. Using Indonesian customs and excise organisations as its case study, this research took samples from three MSOs and nine CEOs situated in nine cities in four provinces as representative of the 120 service offices. This chapter reveals that performance management based on the BSC is one of the

bureaucratic reform programs introduced in Indonesia's MoF. This chapter also provides information about the stages of BSC implementation in each of the respondent organisations, which is valuable information that contributed to the design of this research.

Chapter 3: Exploring the Concept and Practices of the BSC: A Literature Review

3.1 Introduction

The purpose of this chapter is to explore and review the theoretical perspectives and practices of BSC implementation. This chapter discusses BSC implementation mainly by exploring its practices as a PMS as described in the existing literature. This chapter is organised as follows. In the next section, the researcher briefly explores public-sector reform and in doing so establishes its relationship with performance management. This section is followed by a discussion of BSC practices, focusing on the development of the BSC concept, conceptual foundations, practices in public-sector organisations, and benefits of implementing the BSC, as well as critiques of the BSC. This chapter concludes by surveying the potential research gaps in the existing literature.

3.2 Public-sector reform

The need for public-sector reform has been an enormous topic of discussion in many countries. Osborne and Gaebler (1992) argued that the basic problem is not merely to decide whether more government or less government is needed, but that in fact government must become better. The authors also highlighted that better governance is the process by which we collectively solve our problems and meet our society's needs. The need to improve public administration and public-sector performance has been increasing over time. The challenge is not only to generate or deliver better service but, much more importantly, to bring vitality to national development. Evan and Rausch (1999) found that the role of bureaucratic authority structures should be included as a factor in general models of economic growth. They also echoed the need for policy makers to construct better bureaucracies and for social scientists to conduct more research on the organisation of state bureaucracies. Public-sector reform, then, has clearly been a persistent item on the agenda for many countries around the world. According to

Pollitt and Bouckaert (2004), public-sector reform can be defined as a series of deliberate changes to the structures and processes of public-sector organisations with the purpose of causing them to perform better. Public-sector organisations need to demonstrate that there have been improvements in performance and that goal and objectives are being achieved (McAdam et al 2005). Another, similar view was also expressed by de Bruijn (2007, p.4) who proposed the importance of performance measurement in public sector by stating that "performance measurement is a very powerful measurement tools that reduces the complex performance of a professional public sector organization to its essence, hence enable to detect poor performance allowing the organisation to be corrected if it performs poorly. If the public organization performs well, performance measurement might play an important role in making this transparent and in acquiring legitimacy".

With the demand for greater transparency and accountability regarding the use of public funds, public-sector organisations have turned to private sector performance management practices as a potential means of improving and demonstrating their own performance and accountability (Hood 1995; Jackson and Lapsley 2003; Perera et al. 2003; Lapsley and Wright 2004 cited in Northcott and Taulapapa 2012). Northcott and Taulapapa (p.167) have referred to a move towards specifying strategic goals that then form the basis for setting published performance targets against which actual public-sector organisation performance must be compared.

With respect to performance measurement, a study of municipal governments of the USA and Canada by Chan (2004) showed that the government administrators whose organisations have implemented BSC strongly believe that its benefits outweigh its costs. Marr and Schiuma (2003) concluded that the BSC appears to be one of the most powerful concepts in the field of performance management and measurement (PMM). The BSC has also gained its popularity in public-sector

organisations (see Brignall and Modell 2000; Lapsley and Wright 2004; Niven 2008; Northcott and Taulapapa 2012). Moreover, the BSC is designed to provide a PMS that links overall strategy to plans and performance measures, thereby providing a timely and cost-effective means of reviewing whether an organisation is on track to achieve its goals (Wisniewski and Dickson 2001).

3.3 BSC concept

According to Kaplan and Norton's (1992) definition, the BSC is "a set of measures that gives top managers a fast but comprehensive view of business performance which include financial measures, and its complement with operational measures on customer satisfaction, internal process and the organisation innovation and improvement activities-operational measures that are the drivers of the future of the financial performance, later these factors are known as perspectives".

The BSC concept has evolved greatly since its first introduction (Braam and Nijssen 2004; Madsen and Stenheim 2015). With regard to its development process, Kaplan (2009) explained that the development of the BSC can be divided into three stages. In stage one, the BSC was used merely as a measurement tool; what distinguishes it from other measurement methods is that the BSC introduces a comprehensive view of organisational performance based on a broader set of values than financial indicators. Meanwhile, in stage two, the BSC concept emphasizes the importance of strategic objectives and how to construct those strategic objectives in a framework called 'strategy maps'. With the strategic objectives constructed coherently (a causal-effect relationship) on a strategy map, people in the organisation can easily understand the link between one strategic objective and another. The last stage is the strategy management system, in which the BSC reaches a broader scope of management. In this stage, every strategy cascades to managers or staffs proportionately so that everyone knows directly or indirectly how he or she is to contribute to the organisation's strategic objectives.

The BSC concept was first developed by Kaplan and Norton (1992) as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to provide managers with a balanced view of OP. Numerous other authors have contributed to the BSC concept, leading to its evolution from a performance measurement tool to a PMS (Perkin et al. 2013). Kaplan and Norton (1992) formulated a BSC that comprises four perspectives, namely: the financial perspective, the customer perspective, the internal business perspective and the innovation and learning perspective. These four perspectives are common and inter-related. Figure 3.1 below describes the relationships of the four factors.

Figure 3.1   BSC linking of performance measures
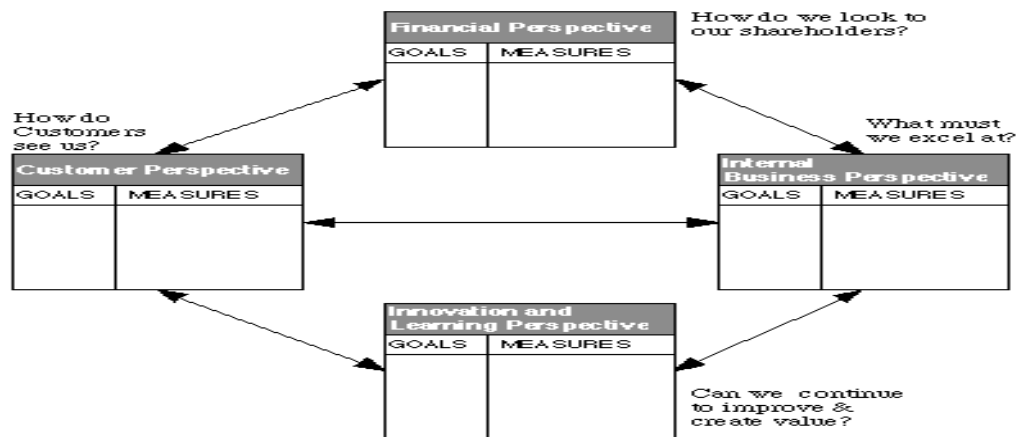
Source: Kaplan and Norton (1992, p. 72)

Kaplan and Norton (1992) explained that the BSC puts strategy and vision at the centre of an organisation. Hence, members of the organisation are encouraged to work accordingly, leading to the achievement of the organisation's goals. The authors further claimed that the introduction of the BSC concept provided a breakthrough in terms of how a company look at their achievements, given that the BSC concept provides more insight and effectiveness for OP, linking performance directly to organisational strategy.

With regards to the operationalisation of perspectives in the BSC, Aidemark (2001, p. 25) explained the idea that three different perspectives—customer, internal business processes and learning and growth—are of vital importance to a fourth: the financial perspective. Aidemark further described the BSC as linking customers, internal processes, employees and system performance to long-term financial success. If the first three perspectives are developed in the right direction, then the fourth overarching financial perspective follows suit. The innovation and learning perspective is intended to strengthen competence among staff members. This supports the development of internal business processes, which in turn leads to better customer relations. Growth in customer loyalty translates to financial prosperity. The BSC is, in other words, more of a strategic management system than an informational structure, and it has its greatest impact when it is used to implement strategy and to drive organisational change (Kaplan and Norton 1996b). At this point, however, the concept does not support clear methods as to how strategy and vision can successfully link to organisational measures: the authors did not provide a logical explanation of how each perspective can relate to the others or an account of the relationships among organisational vision, perspectives and strategic objectives.

The latest development of BSC is the idea of making BSC into a strategy management system. Kaplan (2009), using Simons' (1995) definition to explain the development of the strategy management system, transformed the BSC from an extended diagnostic system to an interactive system with three distinct characteristics: first, information generated by the system is an important and recurring agenda addressed by the highest levels of management. Second, the interactive control system demands frequent and regular attention from operating managers at all levels of the organisation. Third, data generated by the system are interpreted and discussed in face-to-face meetings of superiors, subordinates, and peers.

The idea of a causal relationship between the four perspectives is not without criticism. For instance, Nørreklit (2000) concluded in her research that a causal relationship along the lines suggested by Kaplan and Norton (1996a) is clearly not valid. She further emphasized that an evaluation system that does not integrate all relevant variables cannot be expected to show valid results. In a later article, Nørreklit (2003) used stylistic text analysis and argumentation theory to conclude that the popularity of the BSC is based on persuasive rhetoric rather than solid academic argumentation. A similar critique stems from a study by Nørreklit et al. (2012), in which the authors applied discourse analysis and concluded that the BSC concept not only lacks realistic scholarly characteristics but also shows some characteristics of a myth speech genre. Responding to criticisms of BSC concept, Kaplan (2012) argued that most criticism of the BSC focused too much on these aspects of the BSC and largely overlooked the role that the BSC can play as a tool for the execution of strategy. With regard to Nørreklit's (2000, 2003 and 2012) criticism in particular, Madsen and Stenheim (2015) stated that Bukh & Malmi (2005) and Kaplan (2012) have moderated Nørreklit's criticisms and argued that they focus largely on the older version of the BSC set out in Kaplan and Norton's 1996 book. Madsen and Stenheim (2015) underscored that the BSC concept has developed considerably since its introduction in 1992 and that the criticism was leveled at an outdated version of the BSC version.

Another example of BSC criticism comes from Kasurinen (2002), who applied action research in the strategic business unit of a multinational Finnish-based metals group. Kasurinen claimed that the BSC concept does not pay enough explicit attention to the context of change implementation. He argued that the BSC's lack of this contextual analysis at the early stages of a project may lead to understatement of structural barriers and to only limited implementation. Kasurinen added that some of the advancing forces may 'push' the project in the wrong direction given that the BSC system involves many levels of organisational

hierarchy and that the issues under consideration range from strategic transformation to operational improvements. He further suggested that before implementing the BSC within an organisation, it should be decided whether the primary purpose of using the BSC is as a measurement system or a management system (strategic focus). However, the BSC concept has developed from a performance measurement system into a management system, and it has a positive effect on the organisation when it is related to organisational strategy (Braam and Nijssen 2004; Paplexandris et al. 2004). According to Braam and Nijssen (2004) and Paplexandris et al. (2004), implementing BSC within the organisation is a question of the management system.

Another strong criticism of the BSC came from a study by Voelpel et al. (2006, p. 49-54). The authors claimed that five major categories of problems arise when applying BSC in the innovation economy and that these have the potential to jeopardize the organisation. First, the BSC is a relatively rigid measurement tool. The authors thus argue that given the BSC's four perspectives as the main categories according to which key success factors are defined, the BSC tends to force indicators into one of the four perspectives. They claim that doing so limits perspectives on the company, leaving little room for cross-perspectives that might have simultaneous impact. Second, the BSC creates a static-ism that tends to struggle with the challenges of a highly competitive and changing business world. Within the BSC approach, a centrally defined strategy is translated into certain measures that align all company activities with the achievement of the company's BSC goals. As a consequence, the optimal implementation of the BSC leads to a high level of uniformity and goal orientation. Voelpel et al. further argue that this condition increases and possibly maximizes the focus on the given goal, but it also limits any further activities and initiatives that might go beyond the originally set targets. Third, the external innovative connectivity of an organisation is hampered by the BSC, which is mostly an internal document; this is a critical limitation in its ability to account for the external environment and systemic linkages. The authors

argue that the BSC widely ignores the needs of an interlinked and highly networked innovation economy in which companies co-evolve and where competition is partly giving way to co-opetition. Fourth, the BSC follows the traditional logic of innovation through internal R&D, which works on an innovation from its beginning to its end, keeping it secret from the external environment and especially from competitors. The authors provide reasoning for this opinion in referring to the nature of innovation today as similarly changing from incremental to disruptive, from closed to open, and by positing that innovation is likewise becoming increasingly networked.

Fifth, the BSC is grounded in a mechanistic mindset. Voelpel et al. stated that companies with a bureaucratic and hierarchical structure, in which job responsibilities are still clearly defined and in which deviations from the standard and routine processes are treated as problems of a temporary nature before going back to the norm, might very well benefit from the BSC given that it provides a rationalistic, systematic approach to measurement. However, as business processes become more complex, an understanding of most of the key success factors within a firm needs to take cross-perspectives into account. In a knowledge-driven company, simple cause-and-effect relationships are no longer sufficient for an understanding of the complex relationships that the BSC tries to reduce to a linear, one-way relationship. In their explanation, the authors took customer satisfaction as an example of an element that might be linked to various factors such as employee satisfaction, quality, and delivery time. However, as an example, customer satisfaction might also enhance employee satisfaction, which in turn might positively influence product quality. The authors proceeded to highlight that the predominant mindset connected to the application of the BSC is that of mechanistic and linear thinking, making it difficult to deal with an interconnected and networked world. Voelpel et al. (2006) appear to have been lacking some fundamental information when they compiled the five limitations set out above. For instance, in their first claim, that BSC is relatively rigid, the authors

refer to the number of perspectives; however, the BSC concept is actually flexible as proposed by Kaplan and Norton (1996), who clearly stated that the four perspectives should be considered a template, not a straitjacket. The second note is that they strangely use Encyclopaedia Britannica as a case company, but Encyclopaedia Britannica never applied the BSC concept (Kaplan and Norton 2006c). Similarly, the next four limitations of the BSC concept as outlined by Voelpel et al. (2006) strongly indicated that they had not performed a broad review of other researchers' literature on BSC. For instance, an ambiguous statement appears in the admission that the BSC maximizes the focus on a given goal but that it at the same time limits any further activities and initiatives that might go beyond the originally set targets (Voelpel et al. 2006). In contrast, the BSC concept opens up an opportunity to learn, to adapt organisational strategies to dynamic conditions and to become more responsive to new ideas emerging from within the organisation (Kaplan 2001c).

Kaplan and Norton (2001c) noted that, despite their different ways of achieving strategic alignment and focus, all organisations are believed to apply relatively similar principles to which the authors refer to as the 'SFO model'. These are divided into five classifications. The first of these is translation of the strategy into operational terms, a process during which the organisation builds a strategy map interpreting their strategy for units and the employees within those units. This encourages employees to share the same understanding of the strategy. Second is the alignment of the organisation with the strategy, which emphasizes the importance of linking and integrating individual strategies so that the OP exceeds the sum of the individual parts. Third is the principle of making strategy everyone's daily responsibility. This principle reveals the importance of employees' understanding of the organisation's strategy, which allows them to carry out their daily tasks in such a way that they are contributing to the accomplishment of the strategy. This is referred to as a top-down communication. The fourth principle is the making of strategy into a continuous process. Kaplan and Norton stated that

companies using BSC illustrate three important processes in managing strategy, namely linking strategy to the budgeting process, engaging management in meetings to review strategy, and learning and adapting as the strategy evolves. The fifth principle is the mobilization of leadership for change. Unlike the other four other principles, which focus on tools, processes and frameworks, Kaplan and Norton believed that ownership and active involvement of the executive team is the single most important condition for success. In 2008, Kaplan and Norton proposed a management system tool kit that uses BSC concepts in its cycle. The management system toolkit cycle is a five-stage system that begins with developing the strategy, followed by translating the strategy, planning operations, monitoring and learning and lastly testing and adapting the strategy. Kaplan and Norton posited that this management system toolkit cycle would enable an organisation's executives to link strategy and execution.

According to a review of the BSC literature conducted by Perkins et al. (2014) BSC development is categorized into three generations which are in turn divided into eight versions. The first generation is divided into four different versions: the first lays the groundwork for the scorecard framework, the second begins to focus on strategy, the third introduces specific targets, develops the strategy and introduces causality, and the fourth highlights the role that the scorecard plays as part of a PMS. The second generation of the BSC has two versions. The first of these is the introduction of strategy maps and the second involves furthering the development of this framework alongside the change to a bottom-up, ongoing approach to the scorecard framework. The third generation has two versions, with the first characterized by the addition of the 'destination statement' to the BSC and a greater focus on the strategic linkage model and the second simplifying the scorecard by removing many of the perspectives that are considered in earlier versions. Overall, the development stages of the BSC proposed by Perkins et al. (2014) are much more detailed than the elucidations offered by Kaplan (2009).

In sum, the BSC framework has developed significantly since its original introduction. The milestone of each development was recorded in a series of publications by Kaplan and Norton since 1992. Table 3.1 below identifies the key aspects that the BSC introduced based on the literature written by Kaplan and Norton.

Table 3.1 Summary of BSC development

Publication Year	Publication Title	Key Areas Covered
1992	The BSC measures that drive performance	• Introduction of BSC as a foundation for development • BSC is a superior performance measurement that uses both financial and non-financial measures • Identification of the four perspectives: financial; customer; internal business; innovation and learning • BSC is forward-looking (long-term performance)
1993	Putting the BSC to work	• BSC is not only a measurement exercise, it is also a management system to motivate breakthrough improvement • BSC has greatest impact when used to drive a change process • Identification that transparency is critical to a successful BSC • Measures on BSC must be specifically designed to fit firm's mission, strategy, technology, and culture
1996	The BSC: Translating strategy into action	• BSC has evolved from a measurement system to a strategic management system • Identification of four major steps in successful BSC implementation • Reclassification of "internal business process" and "learning and growth", • Shifting innovation to internal business processes and adding growth element to employee learning • Measures are linked to each other in a causal relationship, unlike before, linked to strategy and vision
2001	The strategy-focused organization: How BSC companies thrive in the new competitive environment	• Translating the strategy to operational terms: building strategy maps • Aligning the organization to create synergies: creating business unit synergy • Making strategy everyone's everyday job: creating strategic awareness, defining personal and team objectives, the balanced paycheck • Making strategy a continuous process • Mobilizing change through executive leadership
2004	Strategy maps: Converting intangible assets	• Visually map strategy • A visual cause-and-effect explanation of what's working and what's not, in a way that everyone in the company can understand

	into tangible outcomes	
2005	The office of strategy management	Establishing a new unit to orchestrate strategy and execution within an organization
2006	Alignment: Using the BSC to create corporate synergies	• Helps get the entire organization involved in strategy scorecard to create corporate synergies • Alignment: a source of economic value • Corporate strategy and structure • Aligning financial and customer strategies • Aligning internal process and learning and growth strategies: integrated • Strategic themes • Cascading: the process • Aligning boards and investors • Aligning external partners • Managing the alignment process • Total strategic alignment
2008	The execution premium	• Develop the strategy • Plan the strategy • Align the organization • Plan operations • Monitor and learn • Test and adapt
2010	Managing Alliances with the Balanced Scorecard	The balanced scorecard management system can help companies switch their alliance management focus from contributions and operations to strategy and commitment
2015	Formal Measures in Informal Management: Can a Balanced Scorecard Change a Culture?	The collaboration to create a "balanced scorecard" of performance measures can help change an organization's culture

Sources: Kaplan et al. (2005), Kaplan et al. (2010), Dechow (2012), Hoque (2014) and Gibbons and Kaplan (2015).

Organisations using the BSC are not limited to merely focusing on financial measures; in fact, the BSC enables organisations to measure their progress in four new management processes that link the organisation's long-term strategic objectives with short-term actions (Kaplan and Norton 1996a). Kaplan and Norton highlighted that there are four processes of managing strategies, namely translating the vision, communicating and linking, business planning and feedback and learning. Furthermore, Kaplan and Norton (1996b) suggested that translating

the vision, communicating and linking, and business planning are vital for implementing strategy but that they are not sufficient in an unpredictable world. Together, they form an important single-loop learning process in the sense that the objective remains constant, and any departure from the planned trajectory is seen as a defect to be remedied. This single-loop process does not require or even facilitate re-evaluation of either the strategy or the techniques used to implement it in light of current conditions.

Kaplan and Norton (1996b) stated that the BSC has three components that are substantial to strategic learning. The first component is articulation of the vision, according to which the BSC articulates the vision clearly as well as, in operational terms, the goals that the organisation as a team is trying to achieve. In other words, it links individual performance to business unit objectives. The second component is the BSC concept's introduction of a strategic feedback system that tests, validates and modifies the hypotheses embedded in a business' unit strategy. The third component is the enabling through the BSC of strategy review, which mainly occurs in the form of review meetings conducted monthly or quarterly. The review meetings are also used as periodic review sessions of strategy and its execution. Kaplan and Norton (2004) introduced the strategy map as a strategic instrument to operationalize the linkage between perspectives in the BSC framework. The authors posited that the benefits of strategy mapping can be seen in terms of a smaller perspective and a larger perspective. From the smaller perspective, a strategy map offers a clear picture for employees in which they can visualise their contribution to organizational performance. In terms of the larger perspective, a strategy map functions as a tool to demonstrate how an organisation plans to convert its initiatives and resources, including elusive assets such as organisational culture and employee knowledge, into real outcomes. The BSC strategy map contains four specific layers: financial, customer, internal process, and learning and growth. These resemble the four perspectives of the BSC

framework. Figure 3.2 below is an example of the strategy maps developed by Kaplan and Norton.

Figure 3.2   Sample of strategy map
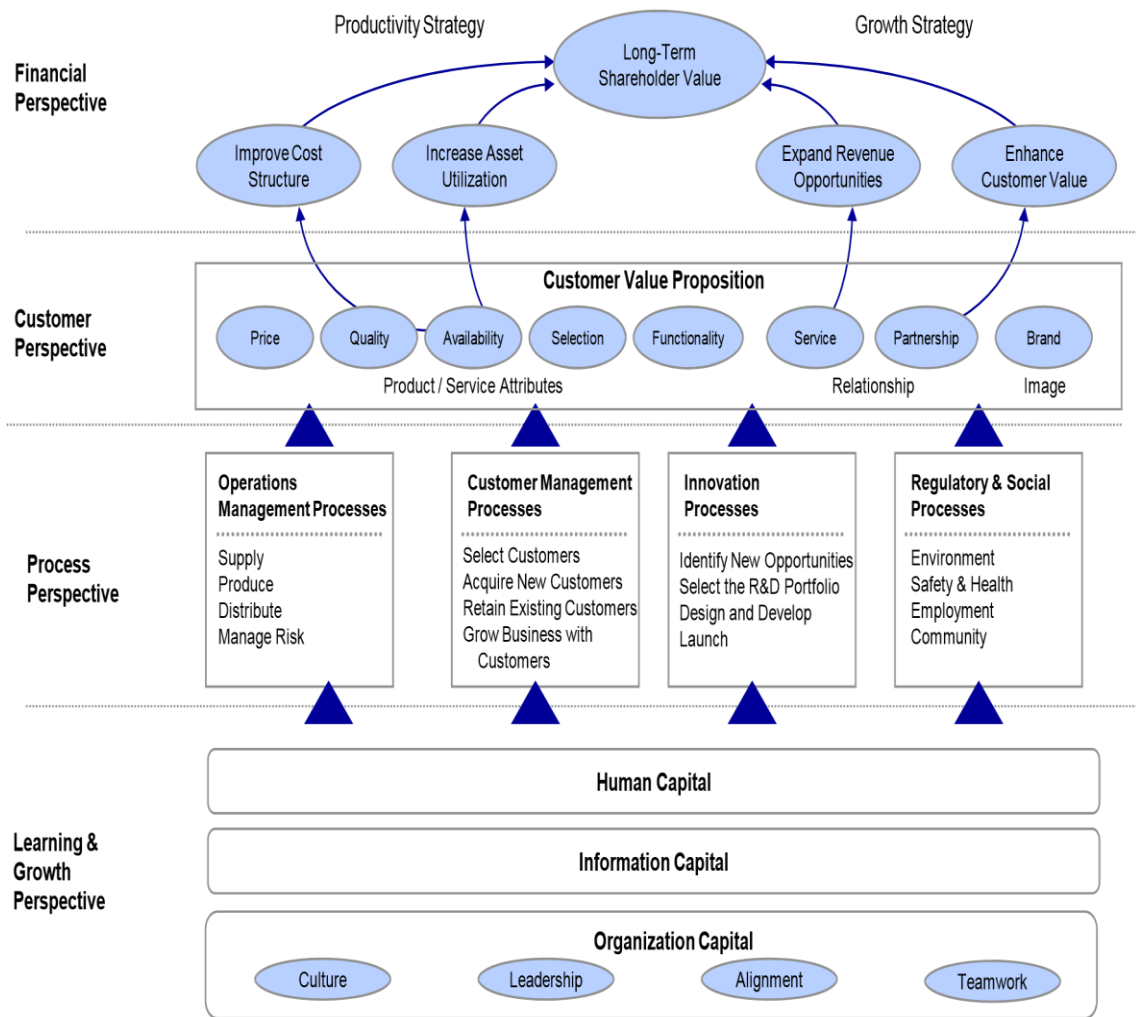
Source: Kaplan and Norton (2009)

Figure 3.2 offers a vibrant illustration of how the BSC concept functions. Learning and growth provide the fundamental basis of an organisation and come from three critical main sources: human capital, information capital and organisational capital. Learning and growth then drive the internal business process perspective. The four main processes involved in the internal business process are operation management, customer management, innovation, and regulatory and social processes. This process generates products or services to be delivered to customers. The next perspective is the customer perspective, which reacts to the output from the internal business process. According to the financial perspective, the more satisfaction customers obtain from the products or services received, the more likely it is that their satisfaction will benefit the organisation.

Regarding designing a strategy map, Kaplan and Norton (2004) suggested that the best approach is the top-down approach, starting with the destination and then charting the routes that will lead to it. The first step is for corporate executives to formulate the mission statement and the core values that underpin the existence of their company. After this first step is taken, managers can formulate a strategic vision of what their organisation wants to become in the future. The vision created ought to give a clear picture of the ultimate goal. The last step is to formulate logically explainable strategies of how to achieve the ultimate goal. Kaplan and Norton proposed that a strategy map can help an organisation locate the main gaps in the strategies being implemented at the lower levels of the organisation. They also posited that a strategy map enables executives to take corrective actions as early as possible when there are gaps in strategies that could endanger the accomplishment of the organisation's strategic objectives. A strategy map is intended to help an organisation carry out its initiatives effectively and rapidly; its construction based on cause-and-effect relationships makes it obvious and testable. For members of the organisation, the strategy map is an effective way of communicating organisational objectives and strategies as well as their underlying hypotheses.

Several researchers have stated that the use of strategy maps with the BSC has contributed positively to organisations in various ways. For instance, a study by Irwin (2002) explored the use of strategy mapping as a tool to develop strategy in the UK small business service. Irwin claimed that strategy mapping is a very effective tool to ensure an understanding of the role of strategy as covering all of an organisation's activities; in addition, he argued that strategy mapping can function as a reminder to the organisation of various strategic perspectives, ensuring that all strategies are taken into account. Similar assertions were made by Lowe et al. (2011), who highlighted strategy maps and scorecards as methods of communicating and aligning an organisation's objectives. The research of Banker et al. (2011) found that strategy mapping helps decision makers focus on the achievement of strategic objectives during the performance evaluation process. Yi-Wu (2012) stated that strategy maps in conjunction with high-quality key performance indicators (KPIs) can support management as a reference for defining activities aimed at strategic improvement. Another positive view of strategy mapping was offered by Cheng and Humphrey (2012), who concluded that strategy mapping helps decision makers to create a more useful cognitive representation of strategies through which external informational items can be interpreted and incorporated in strategic judgments. In a similar vein, Gonzales et al. (2012) conducted a study using the cognitive mapping technique in a large printing company and found that implementing the BSC strategy map helped to reduce managers' causal ambiguity with regard to the objectives they needed to pursue in order to improve their firm's competitive position.

However, not all researchers have viewed the strategy map positively. For instance, Rompho (2012), who examined the relationship between strategy mapping and decision making, found that strategy maps do not affect the quality of participants' decision making. However, the study was conducted in a laboratory setting, which may raise questions about its validity as it was not

performed in a natural setting; the decision-making process within a laboratory situation may vary significantly from that of a real organisational situation.

3.4 BSC practices

For over 25 years, the BSC has garnered interest in practice amongst private organisations as well as public-sector organisations. A considerable amount of literature has been published on BSC practice and theory. The literature reports that BSC concepts have been widely used in the United States, many countries in Europe, Australia, New Zealand and several Asian and African countries. According to Paranjape et al. (p.5, 2006), various journal articles and surveys confirm that of all performance measurement systems, the BSC is the most popular, least criticised and most widely implemented. A similar report was also supplied by Neely (2003 cited in Paranjape 2006), who quoted the Connecticut-based research organisation Gartner as estimating that over 70 per cent of large US firms had adopted the BSC by the end of 2001. The scope of adoption in each country is varied; in some countries, BSC is adopted in both private and public-sector organisations, while some others have reported implementation of the BSC among municipal/local governments and healthcare providers. As noted by Burkert et al. (2010), surveys provide evidence for impressively high rates of adoption of the BSC worldwide: among US firms, the rate of adoption had already been estimated at approximately 50% by earlier studies and more recent evidence indicated that this percentage had increased to 66%, supporting the findings of Gartner cited above. This high rate of implementation has generated a considerable number of studies regarding BSC. According to de Geuser et al. (2009), research on the BSC can be structured around three main issues: (1) the characteristics of widespread diffusion, (2) the assessment of the contribution of the BSC to firms' performance and (3) the ways in which the BSC generates that contribution.

The reasons for which the BSC has been so broadly accepted are reflected in a study by Akkermans and Van Oorschot (2005). Their research in an insurance

company in the Netherlands suggested that there are two primary reasons for which the BSC concept has been widely accepted: firstly, with only a few well-balanced numbers, it allows the monitoring of the performance of an entire organisation. Secondly, the BSC concept is able to serve as a bridge between various fields, both financial and non-financial. Similar suggestions have been reported by other scholars. Malmi (2001), who conducted a study using semi-structured interviews of 17 organisations in Finland known to have adopted BSC, concluded that there are five reasons reinforcing an organisation's decision to adopt the BSC: 1) the concept translates strategy into action; 2) quality programs and especially various types of quality awards are being sought by the organisation in question; 3) BSC can be used to support change agendas; 4) BSC adoption can serve as a response to managerial fads and fashions; and 5) BSC adoption can serve as a response to abandonment of traditional budgeting.

With regard to the effects of BSC implementation, the usefulness of BSC in organisations has been positively reported by several researchers. For instance, Greatbanks and Tapp (2007) concluded that adoption of the BSC enables the employees to clearly appreciate their roles, which in the end contributes to the achievement of the organisation's business plan and excellence goals. In a similar vein, Crabtree and Debusk (2008), who conducted their research on public-sector organisations, reported that after three years post-BSC adoption, organisations outperformed their industry counterparts who chose not to adopt the BSC. Crabtree and Debusk also concluded that companies yield greater surpluses after implementation of the BSC. A similar conclusion was reached by de Geuser et al. (2009), who also posited that the BSC concept's positive contribution to an organisation is derived from three sources: the improved translation of organisational strategy into operational terms, the development of strategizing into a continuous process and the closer alignment of various processes, services, competencies and units of an organisation.

In a study using survey questionnaires in a retail sector company in Spain intended to study the employees' affective reactions to BSC adoption, Molina et al. (2014) concluded that BSC implementation is significantly related to positive affective reactions among employees. To the best of the researcher's knowledge, at the time of this writing, Molina and colleagues' (2014) study is the only empirical evidence that relates BSC usage with employees' work-related attitudes. It appears, therefore, that there remains much to learn about the effect of the BSC on employees' work-related approaches and outlooks.

Turning to the research settings in which previous research of the BSC has been carried out, most studies have reported BSC adoption in developed countries (Hoque 2014). Furthermore, Hoque's review of accounting and management journals found that only five of 114 published articles in accounting journals and three of 67 published articles in management journals reported BSC practices in countries with emerging economies. This evidence leads to the conclusion that few researchers have been interested in the BSC's implementation in emerging economies. However, despite this lack of attention, BSC practices in countries with emerging economies may reveal characteristics of the BSC that differ from those found developed countries; this could perhaps contribute to a richer overall understanding of BSC implementation. In addition to the scarcity of research on the BSC in countries with emerging economies compared to that in countries with advanced economies, the existing literature also indicates little interest in BSC implementation in public-sector organisations. In his literature review, Hoque (2014) found that of 114 articles on BSC adoption in accounting journals, only 23 were related to public-sector organisations. He also found that in business and management journals, the results showed even smaller figures: only three of 67 published articles were set in a public-sector organisation. However, Greatbanks and Tapp (2007, p. 847) suggested that there appeared to be a general consensus amongst researchers that transposed private sector performance models do not readily fit into a public-sector environment and that some adjustments of such

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models is therefore needed. Clearly, then, the need for more research within the public-sector has been confirmed. Expanding on previous work in this realm is necessary in order to explore the practices and possibilities related to adoption of the BSC.

As explained above, the BSC has been widely used by organisations across the world. However, the literature has revealed that the import of the BSC may be understood differently by managers both within and across organisations, implying that the performance measurement systems being implemented in organisations may not closely resemble the construct envisioned by Kaplan and Norton (Soderberg et al. 2011). Madsen and Stenheim (2015, p. 68) suggested that its wide berth for interpretation makes the BSC appealing to a large number of potential users in different contexts. Furthermore, they posited that this characteristic makes the concept plastic and flexible, and thereby less likely to clash with a variety of local cultural values and cognitive frameworks.

From the existing literature, it is clear that the effect of external variables on BSC implementation has not attracted the attention of many researchers. In fact, the only study found in this realm was that of Hoque and James (2000), which was conducted using survey questionnaires and involved 188 Australian manufacturing companies. The authors examined organisation sizes, product life cycle stages and strength of market positions as variables that may affect the implementation of BSC. They suggested four interesting findings: first, larger companies make more use of the BSC. Second, firms with higher proportions of new products have a greater tendency to make use of measures that relate to those new products. Third, company market position has not been found to be associated with level of BSC usage. Fourth, BSC usage is associated with improved performance, but the authors emphasised that this was not significantly dependent on size, product life cycle or market position.

It is evident that there have been ambiguous definitions of the BSC concept in the theoretical literature (Speckbacher 2003). Many previous studies have offered no clarity as to the extent of BSC implementation in their responding organisations. For instance, Ittner et al. (2003), who used data from US financial services firms, assessed the relative ability of BSC approaches to explain firm performance. They found little evidence that BSC is associated with OP (ROA and sales growth). However, according to their explanation, many firms claimed that they had not implemented BSC fully as Kaplan and Norton prescribed. However, they did not explain what they meant by 'fully'. Another example is a study by Papalexandris et al. (2004), which was conducted in a large software development company in Greece. The researchers concluded that the BSC is a necessary 'good' for companies when it is used as a framework and guideline for successful strategy communication and implementation and as a system for understanding what truly creates value in a company, rather than as a pure performance measurement system. However, in their study, Papalexandris et al. did not elaborate on the depth of BSC implementation that had taken place in the organisations under consideration. These two examples in the literature illustrate that there may be confusion as to what BSC actually is. In light of such potential misperception, several researchers have developed various series of typologies or classifications of BSC use. The purpose of developing such typologies is to provide clearer information regarding the extent of BSC use within an organisation.

There are four main groups of researchers who have posited various typologies in explaining BSC levels of practice; they are: Speckbacher et al. (2003); Lawrie and Cobbold (2004); Soderberg et al. (2011) and Perkins et al. (2014).

Table 3.2 Typologies in BSC

Speckbacher et al. (2003)	Lawrie and Cobbold (2004)	Soderberg et al. (2011)	Perkins et al. (2014)
Type I BSC: a specific multidimensional framework for strategic performance measurement that combines financial and non-financial strategic measures.	Type I BSC: primarily a performance measurement system.	Level 1 BSC: performance measures are derived from the organisation's strategy.	BSC 1.0 (Kaplan and Norton 1992): Mixture of financial and non-financial measures, interactions between four different perspectives of OP and number of measures balanced. BSC 1.0.1 (Kaplan and Norton 1993): beginning to focus on strategy, provides an early 'how to' guide for building a BSC and introduction of strategic objectives. BSC 1.1 (Kaplan and Norton 1996a): more weight given to specific targets and time to reach them, focus on strategy: the four processes of managing strategy, introduction of causality and strategic linkages between measures. BSC 1.2 (Kaplan and Norton 1996b): strategic linkages between strategic objectives and BSC as part of a core performance management system.
Type II BSC: a Type I BSC that additionally describes strategy by using cause-and-effect relationships.	Type II BSC: Type I BSC plus: 1. Measures are chosen to relate to specific strategic objectives, the design aim being to identify	Level 2a BSC: Level 1 plus the attribute of balance. Level 2b BSC: Level 1 plus the attribute of causal linkages.	BSC 2.0 (Kaplan and Norton 2000): introduction of strategy maps, how organisational assets can be converted into performance outcomes,

	approximately 20-25 strategic objectives, each associated with one or more measures and assigned to one of four perspectives; 2. An attempt is made to visually document the major causal relationships between strategic objectives, laying out the results in a 'strategic linkage model' or strategy map.		introduction of intangible assets and the cascading top-down approach. BSC 2.1 (Kaplan and Norton 2004a, b): further development of strategy maps, how intangible assets can determine the performance of critical internal processes, and the bottom-up approach.
Type III BSC: a Type II BSC that also implements strategy by defining objectives, action plans and results and by connecting incentives with BSC.	Type III BSC: Type II BSC plus: 1. Destination statement 2. Strategic linkage model with activity and outcome perspectives.	Level 3 BSC: Level 1 plus the attributes of both balance and causal linkages.	BSC 3.0 (Lawrie and Cobbold 2004): addition of destination statements and more focus on strategic linkage model, less on specific measures. BSC 3.1 (Cobbold and Lawrie 2002): reduction in number of perspectives used
		Level 4a BSC: Level 3 plus the attribute of double-loop learning. Level 4b BSC: Level 3 plus the attribute of linkage to compensation.	
		Level 5 BSC: Level 3 plus the attributes of both double-loop learning and linkage to compensation	

Source: Researcher's compilation

3.5 The BSC in public-sector organisations

Kaplan and Norton (2001a) posited three benefits of the BSC concept for the management of not-for-profit organisations: first, bridging the gap between vague mission or strategy statements and day-to-day operational measures; second, facilitating a process by which an organisation can achieve strategic focus; and third, shifting the organisation's focus from programs and initiatives to the outcomes that the programs and initiatives are intended to accomplish. However, the authors realized that it is very difficult to adopt the BSC to public-sector organisations due to the difficulty of determining strategies. The same concern was voiced by Wisniewski and Olaffson (2004) and Hoque (2014), who argued that developing and using the BSC within the public-sector, with its varied social and political contexts, is a much more complex undertaking than it is in the private sector.

Moreover, Kaplan and Norton (2001a) highlighted that most initial scorecards in public-sector feature an operational excellence strategy that treats their mission as a given and aims to help employees do their work more efficiently. Therefore, the BSC as conceived in public-sector organisations tends to be closer to KPI scorecards than strategy scorecards. According to Kaplan and Norton (2001a), apart from the difficulty of determining strategies, one major problem in implementing the original BSC concept is the placement of the financial perspective at the top. For that reason, many public-sector organisations rearrange the construction of the BSC by changing the hierarchy, with the customer or constituent perspective being considered the most important.

Dobrovic et al. (2008) proposed several preconditions that should be in place in public-sector organisations for successful implementation and effective application by means of the BSC: 1) the guidelines and strategic goals sent by the government to state and public organisations need to be clear and unambiguous; 2) a public organisation's management needs to have insight into the application

of the BSC method and partly change their managerial habits; 3) the operative procedures for the application of the BSC method need to be clearly defined; and 4) the organisation needs to have a central information system (IS) with which the BSC implementation application or software can be connected.

Kaplan and Norton (2001a) suggested that, as an adjustment from the original BSC, the organisation's mission should be placed at the highest level of its scorecards. Moreover, they proposed three layers with a modified framework consisting of costs incurred, value created and legitimising support as a substitute for the financial perspective in the original BSC construction. The costs incurred perspective highlights the importance of cost efficiency where the measure of cost should include both the expenses of the agency and the social cost that it imposes on citizens and other organisations through its operations. The value created perspective identifies the value created by the agency to citizens; it is problematic and difficult to measure, but the BSC does enable organisations to identify outputs, if not outcomes, from its activities and to measure these outputs. As for legitimizing support, important 'customers' for any government agency are its donors, the organisations that will provide funding for the agency. In order to ensure the continuation of its funding sources, public-sector organisations must strive to achieve the objectives of those sources and, ultimately, of citizens and taxpayers. Having determined the objectives for the upper level, public-sector organisations can then continue identifying internal business processes and learning and growth objectives to ensure the accomplishment of strategies in the areas of costs incurred, value created and legitimizing support.

According to Wisniewski and Olaffson (2004) there have always been efforts in the public-sector organisation context to confirm that performance indicators are not simply focused on costs but also attend to the issues of efficiency and effectiveness. There is also an implied logical hierarchy in the perspectives for a private sector company where the ultimate goal is still financial. Learning and

growth is important because it allows a company to improve its processes. Improved processes, in turn, are important because they allow the company to do better for its customers, which in turn leads to improved financial performance. Clearly, this implied hierarchy is not relevant for a public-sector organisation.

Niven (2002) explains that the word 'balance' in the balanced scorecard relates to three areas: first is the balance between financial and nonfinancial indicators of success. Second is the balance between internal and external constituents of the organisation: shareholders and customers represent the external constituents expressed in the BSC, while employees and internal processes represent internal constituents. The BSC recognizes the importance of balancing the occasionally contradictory needs of all these groups in effectively implementing strategy. Niven's third area for balance is that between lag and lead indicators of performance. Lag indicators generally represent past performance, where typical examples might include customer satisfaction or revenue. Niven also emphasised that financial measures give information as to whether the chosen strategy implementation and execution are leading to improved bottom-line results. Leading indicators of customer performance are conveniently developed through the translation of the organisation's customer value proposition. Determining the effect of these leading indicators on customer performance is measured by developing core outcome measures of customer success. The internal process perspective of the BSC describes the key processes and activities that ultimately drive customer and financial performance. Using the BSC as a management tool provides organisations with the opportunity to uncover entirely new processes in their pursuit of customer and financial outcomes. The value proposition outlined in the customer perspective will drive the choice of internal process measures. Customer-intimate organisations focus on customer knowledge and information technology capabilities. Efficient supply-chain operations are the critical enabler of the operationally excellent company. Product leaders will rely on the innovation process to drive customer outcomes.

The measures in the employee learning and growth perspective are in fact the enablers of the other three perspectives. These indicators ensure that employees possess the right skills, can access the appropriate information, and are motivated and aligned with organisational goals. Effective employee learning and growth measures help sustain an organisation's ability to grow and improve as its environment inevitably changes.

However, Speckbacher (2003) argued that simply moving the financial perspective to the bottom and putting customers on top is not the answer to the problem of adjusting the BSC for non-profit organisations. He urged that it is particularly important for non-profit performance management to clearly define 1) what key stakeholders must offer the organisation in order to fulfil the mission and 2) how to satisfy these stakeholders in return. Speckbacher posited that the BSC model acknowledges the existence of different stakeholders, especially customers and shareholders, but presupposes that shareholders are a primary part of the stakeholders and that this perspective should therefore be placed at the top of the BSC. Speckbacher stated that, in BSC implementation for non-profit organisations, the stakeholder and customer perspectives should come first and second, respectively.

Niven (2002) noted that the BSC helps organisations to manage two essential issues: effective OP measurement and the implementation of strategy. Niven (2002 and 2008) revealed that there are many criticisms of overabundant financial measurements: they are inconsistent with today's business reality, they drive by looking in the 'rear-view mirror', they tend to reinforce functional silos, they sacrifice long-term thinking, and they are irrelevant to many levels of the organisation. Niven (2002) stated that financial measures are lag indicators since they are outcomes of activities previously taken, but that the BSC supports lag indicators with lead indicators, which are the drivers of future economic

performance. Niven also suggested that lead indicators and lag indicators serve as translations of the organisation's strategy.

Meanwhile, Holmes et al. (2006) stated that the financial perspective of the BSC for government organisations is perceived as a measure of financial accountability given that government does not make a profit. The authors formulated four perspectives of the BSC for government: 1) the financial perspective: whether spending its budget allocation is consistent with organisational mission and public law; 2) citizen service: whether the public government institution meets the mandated needs of the people defined by its mission; 3) internal work processes: whether work processes are continuously improving efficiency and quality service to public; and 4. learning and growth of employees: whether employees' human capital and supportive infrastructure have satisfied employee needs. As can be seen from these points, Holmes and colleagues' (2006) idea of applying BSC concepts in public organisations is substantially different from Niven's scheme, especially in terms of the role of the financial perspective. Both ideas are plausible, particularly in view of Kaplan's (2001b) emphasis that the BSC is not a 'straitjacket'; it rather offers opportunities to learn and adapt strategies to dynamic conditions as well as to become more responsive to new ideas emerging from within the organisation.

Using survey data from municipal governments in the USA and Canada, Chan (2004) revealed the factors most frequently cited as necessary for successful implementation of the BSC: top management commitment and leadership buy-in; departmental, middle-manager and employee participation and buy-in; a culture of performance excellence; training and education; keeping it relatively simple, easy to use and understand; clarity of vision, strategy and outcome; linking the BSC to incentives; and resources to implement the system. Support from senior management and buy-in from employees, then, are among the factors critical to implementing the BSC successfully.

According to Niven (2002, p.177), cause-and-effect linkages of measures combine to describe the organisation strategy, which outlines the specific path to the success of the strategy and describes the 'how' of value creation derived from a combination of measures. Cause-and-effect linkages also serve as a diagnostic tool to ensure that the measures combine in such a way as to fully and coherently describe the strategy. Cause-and-effect linkages are best developed by working top-down from the financial perspective through the customer, internal process, and ultimately, employee learning and growth perspectives. Within each perspective the lagging indicators of success are identified, along with the corresponding drivers of performance (leading indicators), which lead to successful outcomes. Niven (2002, p.221) mentioned that to maximize the effectiveness of the BSC, every group within the organisation should have the opportunity to develop links to the BSC that demonstrate how they are contributing to the company's goals. Moreover, he (p.221) elaborated that "to successfully cascade the BSC, everyone in the organisation must understand the operational and strategic significance of the objectives and measures appearing on the scorecard. Organisations may use a combination of communication and education efforts to ensure that this understanding is present before attempting to cascade the scorecard. The essence of cascading the scorecard to lower levels of the organisation is captured in the word 'influence', that is, the ability to produce an effect. Strategic business units should examine the highest-level organisational scorecard and ask: "What can we do at our level to help the organisation achieve its goals? Which objectives and measures are we in the best position to influence?" Departments and groups within business units must ask a similar question: "What can we do at our level to help the business unit achieve its goals? Which of their objectives and measures can we influence?"

Furthermore, Niven (2008, p.258) proposed that cascading in the public-sector organisation should be considered more of a necessity than a luxury or an option

presented by the BSC, because achieving results in the public-sector organisation requires teamwork from a vast web of groups that span levels and service functions. Niven (p.269) also emphasised that, apart from aligning employee activities with organisational strategy, cascading has been consistently cited as a key factor in the success of BSC programs. Niven noted that cascading the BSC to the individual employee level can mitigate, if not eliminate, many of the issues encountered in the normal performance appraisal process. He also asserted that "there are at least five benefits to be attained when employees have personal scorecards: First is building awareness of the BSC. Developing scorecards at the individual level provides yet another opportunity to share the principles and techniques inherent in the BSC system with all employees. Second is generating commitment to the scorecard. Increased involvement in virtually any activity tends to increase commitment to that cause; this is also the case with the BSC. Having employees learn about the scorecard and develop their own series of linked objectives and measures boosts support from this critical audience. The third benefit is increasing comprehension of aligned scorecards. In order to develop their individual BSCs, employees must first understand the objectives and measures appearing in all cascaded scorecards, from the high-level organisational scorecard and the business unit scorecard to the team or department's. Thus, cascading supplies an outstanding training opportunity. Fourth is the benefit of offering a clear line of sight from employee goals to organisational strategy. Developing personal BSCs that align to team or department scorecards allows every employee to demonstrate how his or her specific actions are making a difference and leading to improved overall results. Fifth is building support for the goal-setting process. Using the BSC can breathe new life into often tired and irrelevant employee goal-setting processes".

The study of BSC usage in public-sector organisations has attracted many researchers. Overall, the study of BSC practice in public-sector organisations may be divided into groups based on similar settings:

- Healthcare organisations: for instance, Aidemark (2001); Radnor and Lovell (2003); and Chang et al. (2008);

- Higher education institutions: for instance, Schobel and Scholey (2012); Beard and Humprey (2014); Hladchenko (2015); and

- Government institutions: for instance, Chan (2004), Wisniewski and Olaffson (2004); Greatbanks and Tapp (2007); Sharma and Gadenne (2011).

Apart from improving effectiveness and efficiency, the implementation of the BSC in a public-sector organisation can lead to benefits at many different levels (Dreveton 2013, p. 131). Dreveton concluded that many public-sector organisations have introduced the BSC to improve performance. However, according to the present literature review, at the time of this writing, no empirical evidence has supported the statement that improvement of performance is a direct result of implementing the BSC. For instance, a study by Inamdar and Kaplan (2002) was conducted using the qualitative method (interviews) in nine healthcare provider organisations. The authors stated that the BSC enabled organisation executives to address strategic management challenges in a highly complex and uncertain environment. Likewise, Niven (2008) claims that several benefits can be expected from adopting the BSC concept: demonstrating accountability and generating results, improving performance as related to organisational mission, attracting scarce resources (funding and employees), creating a focus on strategy, producing information rather than data, engaging in self-preservation, driving change and inspiring trust. However, apart from the examples provided, Niven did not justify the basis of these positive effects. Research regarding the benefits conferred by the application of the BSC concept may substantiate Niven's (2008) claims.

3.6   The associated effects of using the BSC system

With regards to benefits that can arise upon implementation of the BSC, Johnsen (2001) enumerated three: first, the BSC is a versatile tool for developing,

discussing and selecting the most relevant decision-taking and performance indicators in complex organisations such as political bodies. Second, the BSC provides a practical approach to judge the basic premise in information economics: the benefit of information should exceed its cost. Third, it educates busy stakeholders, managers and employees in management control in complex organisations. In terms of the associated effects of the BSC, the present study categorises the effects into several areas: organisational performance, strategy clarity, managerial, efficiency and effectiveness.

3.6.1 Effects on organisational performance

The existing literature reveals that there are several researchers who studied the effects conferred by the application of the BSC, especially in organisational performance (OP). For instance, the Hoque and James (2000) took samples from 66 Australian companies. They concluded that BSC implementation is positively correlated with company performance, but that the connection does not depend significantly on organisation size, product life cycle, or market position. Davis and Albright (2004), who examined BSC implementation using a quasi-experimental study in a banking organisation in the USA, reported that bank branches in the BSC group outperformed the non-BSC branches on a common composite financial measure. Another example is a study by de Geuser et al. (2009), which was based on survey data collected from 76 business units in Switzerland, the UK, Germany, Austria, France and the Netherlands. The authors concluded that the BSC's contribution depends to a large extent on three principles of Kaplan and Norton's SFO model: a better translation of the strategy into operational terms; the fact that strategizing becomes a continuous process; and the alignment of various processes, services, competencies and units of an organisation. Considering the three abovementioned examples of BSC research, there is reason to believe that there is a close relationship between the way in which the BSC is implemented and its associated performance effects (Madsen and Stenheim 2015).

Not all research reported positive effects of the BSC on OP. For instance, a study by Ittner et al. (2003), which involved 140 financial services companies in USA using survey method, concluded that the BSC process, economic value measurement, and causal business modelling are associated with higher measurement system satisfaction but exhibit almost no association with economic performance. In their article, they did not provide information about the level of BSC implementation in the responding companies. This information is, however, important as it may be that the measures the companies used were not accurate (Malina and Selto 2001); in addition, it is possible that the responding companies did not use the BSC as strategy for communication and implementation (Papalexandris et al. 2004). This should be clear, because the effectiveness and benefit of BSC implementation is highly dependent on the content of the implementation process that is used (Kaplan and Norton 1996b; Braam and Nijsen 2004; Papalexandris et al. 2005).

As has been illustrated in the analyses of the studies mentioned here, the empirical evidence regarding the relationship between BSC implementation and associated organisational effects has been dominated by studies on BSC practice in private sector organisations. To the best of the researcher's knowledge, similar studies in public-sector organisational settings have not yet been made available.

3.6.2   Effects on strategy clarity

With regards to benefit of the BSC concept for an organisation's strategy clarity, Kaplan and Norton (1996a,b; 2001a,b,c) claimed that the BSC clearly communicates the organisation's strategy to its employees and, when correctly understood and properly implemented, allows employees to see how they contribute to the organisation's strategic goals by translating these goals into specific, measurable activities. In a similar vein, Greatbanks and Tapp (2007) reported that implementation of the BSC system within their case organisation enabled employees to clearly appreciate their role and focus on delivering

performance-related measures that supported organisational strategy. As such, clarity of role appears to have a positive influence on the achievement of the organisation's business plan and excellence goals regarding the delivery of customer service.

Another supporting result emerged from the work of Hladchenko (2015), who used a comparative analysis of the BSC in four institutions of higher education in Germany and Austria to argue that the BSC provides a systemic view of institutional strategy in those institutions. Hladchenko concluded that the BSC makes it easier for the staff in each faculty to understand the strategic goals of the university and that it helps the staff to understand their role in process of the implementation of the university's overall strategy. Furthermore, the author explained that the formation of the BSC framework at different levels of the university allowed the employees to clearly understand the strategic goals and the objectives that they should be pursuing in their everyday professional activities. Cheng and Humpreys (2012), who conducted a study in an experimental laboratory, likewise asserted that the BSC framework has broader implications for organisational decision making. By clearly articulating an organisation's strategy to managers, the strategy map allows managers to form a more useful cognitive representation through which external informational items can be interpreted and incorporated in strategic judgments.

3.6.3 Managerial effects

Kaplan and Norton (1996b) claimed that, when the BSC is correctly implemented, its adoption enables managers to monitor and update their organisations' strategies as their environments change. The usage of BSC has also shown varied results in terms of managerial perspective. For instance, an explorative study by Werner and Xu (2012) found that the BSC helps enterprise leaders manage their operations and execute their strategies. Similar results stemmed from a study by Hoque and Adams (2011). The authors suggested the presence of a positive association between BSC implementation and managers' perceptions of the

benefits of the BSC system. Another similar study, that of Burney and Swanson (2010), reported that the inclusion of non-financial measures in some BSC categories is positively related to managers' job satisfaction and may therefore encourage a long-term focus on decision making.

3.6.4 Effects on efficiency and effectiveness

Several studies on BSC practice in the public-sector have reported an associated effect between the BSC and efficiency and effectiveness. For example, Hoque and Adams (2011), after analysing data from 51 government departments in Australia, found indications that government departments perceived the BSC performance measures as enhancing their programs' efficiency and effectiveness. Similarly, Woods and Grubnic (2008), at the conclusion of their study of the BSC in Hertfordshire, affirmed that the BSC system had helped turn the focus to outcomes rather than outputs as indicators of operational effectiveness.

3.7 Research gaps

The literature reveals that there have been many studies of the BSC; they cover both the theoretical and practical aspects (Madsen and Stenheim, 2015). Hoque (2014, p. 33) claimed that the BSC has generated enormous interest in the academic and industrial communities (Barnabe and Busco 2012; Kraus and Lind, 2010; Malina, Nørreklit, and Selto 2007; Nørreklit, Nørreklit, Mitchell, and Bjomenak 2012; Salterio, 2012).

However, there remain some areas and topics that have received little attention from researchers. The present literature study has identified several gaps in the literature. First, most studies reported on the practice of BSC within the private sectors of countries with advanced economies. Second, the respondents surveyed in the literature were predominantly executives. Third, the properties of the BSC have not been considered in the studies. Fourth, clarity regarding the level of BSC

implementation has been lacking. Fifth, the effect of organisational attributes on BSC implementation has rarely been discussed. Sixth, the influence of BSC as a new management model on employees' attitudes has not been studied. Seventh, the effect of the BSC implementation on OP remains unexplored. A further description of each of these research gaps is provided in the following subsections.

3.7.1   Previous research settings

The adoption and use of balanced approaches to performance management have been widespread around the world (see Rigby and Bilodeau 2009, 2011, 2013), and the research literature on the BSC has evolved considerably over the last 20 years (Madsen and Stenheim 2015); however, empirical evidence from the private sector appears to greatly exceed that stemming from public service environments (Ittner and Larcker 1998; Johnsen 2001; Radnor and Lovell, 2003). Similar findings have arisen from the present literature review, which reports that most studies thus far have been conducted in the context of the advanced economies of developed countries (see **Appendix 1**).

Furthermore, in a comparison of the private and public-sectors, it appears that the private sector has dominated the research settings in studies on the BSC (see Appendix 2). This is unfortunate for public-sector organisations wishing to adopt the BSC framework; there seems to be a common understanding that the direct adoption of private sector performance models does not work well in public-sector organisations and that some adjustment of such models is generally necessary (Kaplan 2001a; Radnor and McGuire 2004; Wisniewski and Stewart 2004). As an extension, organisations in developing countries adopting the BSC based on the experiences and practices of organisations in advanced economies may find the conditions irrelevant to the conditions specific to settings in an emerging economy. It is for this reason that the study of BSC in developing countries with emerging economies, and in particular in government-type organisations, is an important addition to existing knowledge.

3.7.2 Respondent representativeness

Previous studies have mainly sought organisations' executives as respondents; executives are, because of their jobs, in positions of relatively high authority (see: Hoque 2000; Kloot and Martin 2000; Inamdar and Kaplan 2002; Burney 2010). However, it is essential to involve lower-level management and staff in a research study, because the BSC also involves them as actors in the implementation process. The BSC concept apply top-down approaches during the planning phase (Kaplan and Norton 1996), however, the system shifts to a bottom-up process during execution of the strategy. Therefore, it is important to investigate whether the planning process and execution of the organisation's strategies have actively involved all of the elements of human resources in the organisation; this can be done by proportionately involving lower-level management and staff as respondents in the research. In addition, involving non-executive-level individuals as respondents enables the researcher(s) to examine how the PMS using the BSC operates from a broader range of perspectives and experiences.

3.7.3 Clarity of the BSC implementation level

Unfortunately, when evaluating the practical consequences of BSC implementation, most existing studies do not provide information as to how well the BSC has been implemented within the organisations under consideration. Regarding clarity in terms of the BSC implementation level within the responding organisation, Perkins et al. (2014) claimed that it was evident from recent studies of the BSC that the distinctions between different versions of the scorecard were still not being made explicit. Burkert et al. (2010) asserted that the accurate determination of whether companies make use of the BSC is necessary to assess its performance implications and that any failure in this regard undermines the validity of the study as a whole. Hence, there is great need for a study of BSC practices that explicitly explains the level of responding organisations' BSC

implementation in order to justify the associations demonstrated, if any, between BSC implementation and organisation performance.

3.7.4 Lack of interest in the properties of the BSC

Despite being foundations of the BSC system, the properties of the BSC—strategy maps, strategy execution and strategy cascading—have attracted little attention in research studies (Hoque 2014). With these three factors, the BSC enables the assessment of organisations and the evaluation of organisational objectives, both of which lead proponents to see the BSC as a comprehensive management system. The findings of this literature review reveal that there is a need for future studies to investigate the use of strategy maps within organisations and the relevance of strategy execution to strategy maps, with particular attention to whether the strategies within organisations' strategy maps are carried out by employees at the lower levels. Given this gap in the research, there is also a need for further studies to explore strategy cascading in order to provide an objective view of the alignment process and to identify determinant factors in particular.

3.7.5 The effect of organisational attributes on BSC implementation

To the researcher's knowledge, only very few studies (for instance, Malina and Selto 2001; Sharma and Gadenne 2011) have studied BSC implementation in a large organisation. Another area that has received scant attention in the extant research is the use of the BSC in different types of organisations, particularly those of different sizes (Madsen and Stenheim 2015). To the best of the researcher's knowledge, at the present time, only a few studies have reported on the association between organisation size and BSC usage (Hoque and James 2000; Speckbacher 2003). Both studies, however, took place in private sector organisations. Hence, it is relevant to examine the effect of organisation size on BSC implementation in public-sector organisations.

Kaplan and Norton (1996b, p. 76) explained that managers ensure that individuals at all levels of their organisations understand the long-term strategy and that both departmental and individual objectives are aligned with it. Regarding the role of strategizing within the organisation, a study by Mantere (2005) defined strategists as top, middle and operational managers and project managers, as cited in Jarzabkowski et al. (2007). Despite claims about the role of managerial positions, to date, no study has examined the ways in which differences in employees' roles might affect BSC implementation.

3.7.6 The influence of the BSC as a new management model on employees' professional behaviours

The introduction of the BSC as a relatively new management model may have influenced employees' reactions and perceptions. These may have positive or negative effects on the organisation. The available empirical evidence as to how the BSC affects employee behaviour, however, is limited.

The researcher is aware of only one study (Molina et al. 2014) that investigates the influence that BSC implementation has on organisational climate, employee commitment levels, job satisfaction and job dedication. The literature reveals that there are many ways of defining employees' perceptions of their public-sector organisations, including OC and PSM. Following Kim's (2015) assertion that OC and PSM are two individual-level factors that may drive OP in a public-sector organisation, it appears that research regarding the BSC's potential to influence OC and PSM is certainly needed.

3.7.7 Associated effect of BSC implementation on organisational performance

Perkins et al. (2014) expressed surprise that, considering the large body of literature regarding the BSC, there is relatively little evidence as to whether implementation of the BSC leads to an increase in OP. Furthermore, with the exception of a study by Davis and Albright (2004), the researcher is aware of no

studies that have investigated the associated effects of the BSC or considered the manifestation of differences in performance before and after BSC implementation. Further research in this area is recommended in order to reach a fuller understanding of the effects of BSC implementation on performance (de Geuser et al. 2009; Burkert et al. 2010). However, the undertaking such an exercise is dependent on a specific description of the BSC being implemented. In the absence of details, it would be difficult to assess whether a failure to show improvements in performance was due to the implementation strategy or whether it perhaps stemmed from the choice of an inappropriate BSC.

Many studies regarding the adoption of the BSC in the public-sector have been conducted in developed countries with advanced economies (**see Appendix 2**). Developing countries adopting the BSC based on experiences and practices in advanced economies may find these to be irrelevant to their specific conditions. It is thus important to add to the existing body of knowledge by studying the BSC in developing countries and emerging economies, particularly in government-type organisations.

3.8   Chapter summary

The purpose of this chapter was to explore and review the theoretical perspectives and practices of BSC implementation. The need to provide the public with accountable and effective results has increased pressure for the governmental sector to refine their PMS. Brunnson and Sahlin-Anderson (2000) mentioned that, in many cases, public-sector reforms have focused on changing ways of managing, controlling, and accounting for the delivering of services. Management intervention has become a potential option to accelerate public-sector reform process.

In their efforts to accommodate the reform process, many public institutions have been attracted to the BSC system. Although the BSC was initially introduced for private institutions, government agencies and non-profit agencies are keen to implement the system as it promises to assist in achieving improvements in accountability, collaboration, alignment and resource allocation as well as enhanced financial results and strategy execution. Scholars have conducted research on a variety of topics around the BSC, and some have been critical of the concept and its implementation. This chapter therefore also discusses some fundamental criticisms of the BSC's foundational concepts and theoretical assumptions. Some of these included Neely et al. (1995), who criticised the BSC's lack of a competitive dimension, Nørreklit (2000, 2003 and 2012), who disapproved of the causality linkage process claimed by BSC proponents, Kasurinen (2000), who stated that BSC does not pay enough attention to the context of change implementation and Voelpel et al. (2006) who claimed that BSC could potentially put the organization at risk.

The penultimate section of this chapter identified several gaps in the existing literature. These discoveries guided the design of the research framework, as discussed in the following chapter.

Chapter 4: Research Framework

4.1 Introduction

The aim of this chapter is to develop a conceptual framework of BSC implementation in the public-sector organisation as a response to the research gaps identified in the previous chapter. Moreover, based on the research gaps, this chapter presents several variables that are assumed to influence or be influenced by BSC implementation. This chapter explores each variable in order to construct a hypothesis in connection with the implementation of the BSC.

The remainder of this chapter is organised as follows. In the following section, the research objectives and questions are presented. This chapter then briefly elaborates on the research gaps which led to the choice of the variables to be examined in this research. In the next section, BSC implementation is explored in order to formulate a framework that will be applied to evaluate BSC implementation. Subsequently, organisation size and employee roles are explored for the purpose of discovering how these factors might affect BSC implementation. The next two sections discuss OC and PSM, respectively, with the aim of stating the likelihood of BSC influence on those two related elements. The subsequent section discusses OP, which is influenced by BSC implementation. The conceptual framework that forms the focus for this study is then presented. In the final section, a summary of this chapter is presented.

4.2 Research objectives and research questions

This study addresses four research objectives:

i.   Explore the theoretical perspectives of balanced scorecard in order to identify the key success factors of balanced scorecard implementation;

ii. Review balanced scorecard practices in order to clarify organisational factors that affect the balanced scorecard as well as the ways in which the balanced

scorecard implementation affect employee behaviour and organisational performance;

iii. Develop a conceptual framework of balanced scorecard implementation in the public-sector organisation to describe the relationship between organisational factors and the balanced scorecard and define the ways in which its implementation contributes to employee behaviour and organisational performance; and

iv. Test and examine the conceptual framework in order to discover the extent to which organisational factors influence the implementation of the balanced scorecard and the extent to which balanced scorecard implementation is related to employee behaviour and organisational performance within the public-sector organisational context.

Furthermore, based on the research objectives, this study addresses the following six research questions which were specifically designed in relation to data collection from public-sector organisations in Indonesia:

RQ1. How do strategy-focused organisations' (SFO) principles relate to each other within implementation of the BSC?

RQ2. To what extent are organisational factors associated with the implementation of the BSC?

RQ3. Do the SFO principles within the implementation of the BSC have a relationship with organisational commitment?

RQ4. Do the SFO principles within the implementation of the BSC have a relationship with public service motivation?

RQ5. How does public service motivation relate to organisational commitment within an organisation implementing the BSC?

RQ6. How is BSC implementation associated with organisational performance?

4.3 Research gaps and hypothesis construction

As outlined in the penultimate section of Chapter 3, seven research gaps have been identified:

1. Reports on the practice of BSC outside the private sectors of countries with advanced economies;

2. Reports involving respondents who are not at the executive level;

3. Research that provides indications of BSC implementation levels;

4. Studies concerning the properties of BSC;

5. Reports on the effects of organisational attributes on BSC implementation;

6. Explorations of the influence of BSC as a new management model on employees' behaviours;

7. Studies on the associated effect of the BSC implementation on OP.

This research attempts to fill the seven research gaps indicated above. With regard to the first three research gaps (1-3), this research selected responding organisations (CEOs) that have implemented the BSC to the individual level. Details regarding the choices of responding organisations as well as the process of the survey sampling will be further discussed in Chapter 5. With respect to the fourth research gap, this research applies SFO principles, enabling the researcher to explore the BSC properties of strategy mapping, strategy cascading, and strategy alignment.

Turning to the fifth research gap, only a few studies (Hoque and James 2000; Speckbacher 2003) have examined the influence of organisational size on BSC implementation. In addition to organisational size, the present study examines how employees' roles affect the implementation of the BSC. With regard to the sixth research gap, this research focuses on two employee behaviours: OC and PSM. According to Camilleri and Heijden (2007, p. 242), OC and PSM have important implications for both employees as individuals and the organisations

that employ them. The selection of OC as one of the observed variables follows studies by Vroom (1964) and Steers and Porter (1983) as cited in Crewson (1997, p. 508), who suggested that OC is regarded as a better predictor of employee behaviour than other attitudinal measures. Meanwhile, the selection of PSM is based on the understanding that PSM is an important element in public organisations that induces employees to perform meaningful public service (Brewer and Selden 1998). Despite the important role of PSM, however, the research on how management practices may influence the level of PSM has not been of interest to researchers. Therefore, the current research investigates the potential effects of management practices, in this case the implementation of the BSC, on the level of PSM. Turning to the seventh and final research gap, this study examines BSC implementation's potential effects on performance in public-sector organisations.

The subsequent sections provide more detailed discussions of SFO principles, organisation size, employee roles, OC, PSM, and OP.

4.3.1 BSC implementation: using the principles of the SFO model

The principles of the strategy-focused organisation (SFO) model were introduced by Kaplan and Norton in 2001. Based on their study on private companies implementing BSC, Kaplan and Norton (2001c) posited that the successful implementation of the BSC entailed the adoption of five principles: strategy translation, strategy alignment, strategy as 'everyone's everyday job', strategy as a continuous process, and leadership involvement. The authors further elaborated the meaning of each principle as follows: first, strategy translation means that the organisation translates the strategy into a strategy map to create a clear point of reference for all employees. Second, strategy alignment is based on the understanding that organisational strategies should be linked to and integrated into the lower units of the organisation and all individuals. Third, strategy as everyone's everyday job highlights the importance of employees' understanding

of the organisational strategy and the need for employees to carry out daily professional activities that contribute to the organisational strategy. Fourth, strategy as a continuous process describes three actions that an organisation should take: link strategy and the budgeting process, hold routine management meetings to review strategy, develop a process for learning and strategy adjustment. Fifth, leadership involvement stresses the point that the most important component of organisational success is ownership and active involvement on the part of the executive team.

At the time of this writing, de Geuser et al. (2009) were the only scholars to have used the SFO model as a way to evaluate BSC implementation. They found that three of the SFO principles—strategy translation, strategy alignment and strategy process—have a significant influence on OP. This research, however, assumes that all five of the SFO principles represent BSC implementation in public-sector organisations. This assumption leads to the following hypothesis:

H1. SFO principles correlate positively with each other within the implementation of the BSC.

4.3.2   Organisation size and employees' roles

As quoted in Hoque and James (2000, p. 3), the contingency theory of organisations developed by Burn and Stalker (1961), Woodward (1965), and Lawrence and Lorsch (1967) suggested that organisation size may affect the way organisations design and use management systems. With regard to the use of the BSC as a management system, the researcher is aware of only two studies (Hoque and James 2000 and Speckbacher 2003) that have examined the effect of organisation size on BSC implementation. Both studies reached the same result, finding that large organisations are more likely to use the BSC concept. Based on these two previous findings, the researcher assumes that large organisations have more influence over the implementation of BSC than do small organisations. As

this thesis applies SFO principles to represent BSC implementation, the researcher formulated the hypotheses as follows:

H2. The large organisation has more influence on the implementation of BSC than the small organisation.

H2a. The level of BSC strategy translation is higher for employees working in large organisations than for employees working in small organisations;

H2b. The level of BSC strategy alignment is higher for employees working in large organisations than for employees working in small organisations;

H2c. The extent to which BSC strategy becomes everyone's everyday job is greater for employees working in large organisations than for employees working in small organisations;

H2d. The extent to which BSC strategy becomes a continuous process is greater among employees working in large organisations than among employees working in small organisations;

H2e. The level of leadership involvement in BSC is higher in large organisations than in small organisations.

Turning to employee roles, to this point, no study has revealed how employee roles affect BSC implementation. In the present study, the researcher divides employee roles into two types: roles in which employees have opportunities to discuss their organisation's strategic objectives and roles in which they do not. The differentiation is between positions that are structurally one level below the head of the organisation and those that are two or more levels below the head of the organisation. This differentiation is based on the fact that employees who hold strategic positions are well informed about organisational strategies due to their opportunity to discuss them with the organisational head. Thus, it is reasonable to assume that employees with strategic roles have more influence on BSC implementation than do others. This line of reasoning leads to the following hypotheses:

H3. Employees holding strategic roles have more influence on BSC implementation than other employees.

H3a. The level of BSC strategy translation is higher among employees holding strategic roles than among other employees;

H3b. The level of BSC strategy alignment is higher among employees holding strategic roles than among other employees;

H3c. The level of implementation of the BSC strategy as everyone's everyday job is higher among employees holding strategic roles than among other employees;

H3d. The level of BSC strategy as a continuous process is higher among employees holding strategic roles than among other employees;

H3e. The level of BSC leadership involvement is higher among employees holding strategic roles than among other employees.

4.3.3   Organisational commitment and public service motivation

OC has many definitions; one of the most frequently cited is that of Porter et al. (1974, p. 604), who defined OC as the relative strength of an individual's identification with and involvement in a particular organisation. The authors suggested that OC can be characterized by three traits: first, a strong belief in and acceptance of the organisation's goals and values; second, a willingness to exert considerable effort on behalf of the organisation; and third, a strong desire to maintain membership in the organisation. Buchanan (1974, p. 533) viewed OC as a 'partisan, affective attachment to the goals and values of an organisation, to one's role in relation to goals and values, and to the organisation for its own sake, apart from its purely instrumental worth'. Buchanan also considered organisational commitment to consist of three components, each of which is measured with an independent series of questionnaire items. The first component is identification, or adoption of the goals and values of the organisation as one's own; the second is involvement, which he defined as psychological immersion or absorption in the activities of one's work role; and the third component is loyalty,

a feeling of affection for and attachment to the organisation. According to Meyer and Allen (1991, p. 67), OC is a psychological state that 1) characterises the employee's relationship with the organisation and 2) has implications for the decision to continue or discontinue membership in the organisation. Based on this concept, Meyer and Allen then introduced three types of commitment: affective, continuance, and normative commitment. This typology can be seen in part as an extension of Buchanan's (1974) concept in that the two classifications share the component of 'affective commitment'; however, Meyer and Allen (1991) also introduced the two additional components of continuance and normative commitment. Meyer and Allen explained affective commitment as referring to the employee's emotional attachment to, identification with, and involvement in the organisation. Meanwhile, continuance commitment refers to an awareness of the costs associated with leaving the organisation, and normative commitment reflects a feeling of obligation to continue employment. A study by O'Reilly and Chatman (1986) suggested that commitment is the psychological attachment felt by the person for the organisation. Based on their definition, O'Reilly and Chatman (1986) identified three fundamental components of OC: internalization, identification and compliance. Although existing studies have described OC in somewhat different ways, they all centre around one common attribute: an employee's emotional attachment to the organisation.

OC in public organisations was extensively studied by Balfour and Wechsler (1990, 1996) using the three sub-types of commitment to the organisation proposed by O'Reilly and Chatman (1986). Balfour and Wechsler (1990) indicated that public employees develop OC through experience in a positive work environment. Their second study (1996) yielded similar results, finding that public employees' OC is influenced by experiences at work, the impact of organisational arrangements, and characteristics of the job itself. In terms of how management models or tools applied within the organisation may influence OC, the literature is still very limited. One study (Molina et al. 2014) studied how a management model, specifically the

BSC, affects employees' satisfaction, commitment, satisfaction with supervision, competitive climate among the employees and job dedication. The authors found the implementation of the BSC within the organisation to have a positive relationship with employees' commitment. Following this finding, the researcher expects the implementation of the BSC to demonstrate a positive association with OC. Thus, based on previous related findings, the following hypotheses were developed:

H4. The SFO principles within the implementation of the BSC are positively associated with OC.

H4a. The better the strategy translation through BSC implementation, the more employees' organisational commitment will increase;

H4b. The better the strategy alignment through BSC implementation, the more employees' organisational commitment will increase;

H4c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' organisational commitment will increase;

H4d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' organisational commitment will increase;

H4e. The better the leadership involvement through BSC implementation, the more employees' organisational commitment will increase.

Turning to public service motivation (PSM), the term was originally introduced by Perry and Wise (1990). PSM, according to Perry and Wise, refers to 'an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organisations' (p. 368). Based on their research, the authors identified three public service motives: rational, norm-based and affective. Brewer and Selden (1998a, p. 417) defined PSM as 'the motivational force that induces individuals to perform public service'. Similarly, Rainey and Steinbauer (1999) defined PSM as 'a general, altruistic motivation to serve the interests of a community of people, a state, a nation or humankind' (p. 24). Another definition of PSM was contributed by Vandenabeele (2007), who defined it as 'the belief,

values and attitudes that go beyond self-interest and organisational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate' (p. 547).

According to Vandenabeele (2011), despite the growing attention to PSM research, the antecedents of PSM have remained under-researched, as most of the studies performed have addressed its outcomes rather than its origins. Only a few researchers have focused on examining the antecedents of PSM empirically (Perry 1997; Bright 2005; Camilleri 2007; Moynihan and Pandey 2007). Perry (1997) suggested that PSM develops from exposure to a variety of experiences, some associated with childhood, some associated with religion, and some associated with professional life (p. 190). Additionally, a study by Bright (2005) using research surveys on a large county government in the USA concluded that public employees with high levels of PSM desired monetary incentives significantly less than those with lower levels of PSM (p. 150).

Camilleri and Heijden (2007), who examined the antecedents of PSM among 3,400 Maltese public officers, found that the level of an employee's PSM is mainly the result of the organisational environment surrounding him or her. The author suggested that in order to maximise employees' PSM levels, the employees must be provided with both unequivocal goals and a prioritization of goals, irrespective of whether employees receive their instructions from one or more sources. Similarly, a study by Moynihan and Pandey (2007) highlighted organisational environment as a factor that may increase the desire of employees to contribute to the public good. In their conclusion, Moynihan and Pandey also suggested that public organisations must adapt the effect that management systems and other organisational institutions have on the PSM. However, they did not consider management systems as one of the predictors of PSM. The present study aims to investigate how the adoption of a management system, in this case the BSC concept, affects PSM. Following the suggestion by Camilleri and Heijden (2007)

that the articulation of clear and unequivocal goals is one of the conditions needed to maximise the level of PSM, one of the benefits of implementing the BSC is that it renders the organisational objectives more easily understandable. The researcher thus expects that BSC implementation to be positively associated with PSM and proposes the following hypotheses:

H5. The SFO principles within the implementation of the BSC are positively associated with PSM.

H5a. The better the strategy translation through BSC implementation, the more employees' public service motivation will increase;

H5b. The better the strategy alignment through BSC implementation, the more employees' public service motivation will increase;

H5c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' public service motivation will increase;

H5d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' public service motivation will increase;

H5e. The better the leadership involvement through BSC implementation, the more employees' public service motivation will increase.

4.3.4 The relationship between public service motivation and organisational commitment

This study also examines the relationship between PSM and OC. Several previous studies have reported a correlation between PSM and OC. Perry and Wise (1990, p. 371) highlighted that PSM is likely to have a positive relationship with an individual's OC level. Similarly, using data from the USA's General Social Survey, Crewson (1997) concluded that public service motivation in the federal sector is positively related to OC. A study by Taylor (2008) using data from the Australian Survey of Social Attitudes affirmed that PSM showed a significant and positive relationship with OC. A parallel result was also reported by Kim (2011), who conducted a study using data from a survey among firefighters at Gyonggi Provincial Firefighting and Disaster Headquarters in South Korea. Similarly, Caillier

(2015) used data from local, state, and federal government employees in the United States and confirmed that PSM strengthens OC. Inversely, a study by Camilleri and Heijden (2007) found that OC intensifies PSM. In light of these studies, the researcher developed the following hypothesis:

H6. PSM is positively associated with organisational commitment within organisations that apply the BSC as their PMS.

4.3.5 Demographic correlation between OC and PSM

In addition to testing the relationship between BSC implementation and OC and PSM, the researcher included four demographic variables in this study, primarily to serve as control variables. The four demographic variables are educational background, age, gender and organisation tenure. Motaz (1986) found that education has an indirect positive effect on OC. Similarly, Perry (1997) found that education has a positive relationship with OC and PSM. However, Camilleri and Heijden (2007) reported that stronger educational backgrounds have a negative relationship with both OC and PSM. For the purposes of this study, it is expected that education will prove to be positively correlated with both OC and PSM. With respect to age, the previous research offers mixed results. Perry (1997) reported that being older has a positive relationship with PSM and OC. Moynihan and Pandey (2007), however found age to be insignificantly correlated with PSM and commitment to the public interest. Camilleri and Heijden (2007) found that being older has negative associations with PSM and OC. Following Moynihan and Pandey (2007), the researcher expects age to show an insignificant relationship with PSM and OC.

Concerning the association between gender and PSM and OC, Perry (1997) found women to score higher than men in OC, while gender had no significant relationship to PSM. Vandenabeele (2011) reported that males show higher level of PSM than females. As males are generally expected and permitted to be

competitive, aggressive, and dominant, whereas females are expected to assume supportive caretaking roles (Bright 2005, p. 146), the researcher accordingly expects maleness to be positively associated with OC and femaleness to be positively associated with PSM.

With regard to the relationship of organisation tenure with OC and PSM, Balfour and Wechsler (1996) found that the length of employees' tenure within the organisation has an insignificant relationship with OC. Similarly, Naff and Crum (1999) and Camilleri (2007) reported no significant difference in PSM based on organisation tenure. Following these studies, organisational tenure is predicted to have an insignificant relationship with OC and PSM.

4.3.6 Organisational performance and its relevance for the BSC

Referring to Anspach (1991) and Au (1996), Brewer and Selden (2000) defined organisational performance (OP) as a socially constructed phenomenon that is subjective, complex, and particularly hard to measure in the public-sector. Measuring OP is challenging, especially when it comes to measuring the impact of a management system like the BSC (de Geuser et al. 2009). They also expressed the same concern by stating that consideration of the ways in which BSC can be linked to OP is often blurred by the question of measuring the contribution of OP (p. 99). Similarly, Madsen and Stenheim (2015) opined that there are many variables mediating and moderating the relationship between BSC implementation and OP. One way to minimize the vagueness of the actual contribution is to relate the BSC to the organisation's strategies. Doing so is in line with Braam and Nijssen (2004), who used data from a sample of 41 business-to-business companies in the Netherlands. They highlighted the importance of aligning BSC usage with organisational strategies, concluding that use of the BSC that complements corporate strategy positively influences company performance positively, while use of the BSC that is not related to company strategy may weaken company performance.

Hoque and James (2000), employing data from a survey of 66 manufacturing companies in Australia, found that greater usage of the BSC is correlated with improved OP. Another study that confirmed a positive effect of BSC implementation within an organisation is that of de Geuser et al. (2009), whose work yielded results similar to Hoque and James' (2000) and Braam and Nijssen's (2004): De Geuser et al. found that the BSC has a positive impact on OP. However, not all researchers reported a positive relationship between BSC implementation and OP; for instance, Ittner et al. (2003) found the use of the BSC to exhibit almost no association with economic performance.

Theoretically, the BSC helps organisations to objectively measure their organisational strategies; considering the findings from previous studies, then, the researcher proposes the following hypothesis:

H7. The implementation of the BSC is positively associated with organisational performance.

Based on the research questions and hypotheses constructed, the researcher developed the following proposed model for the present study:

Figure 4.1 Proposed model of the study
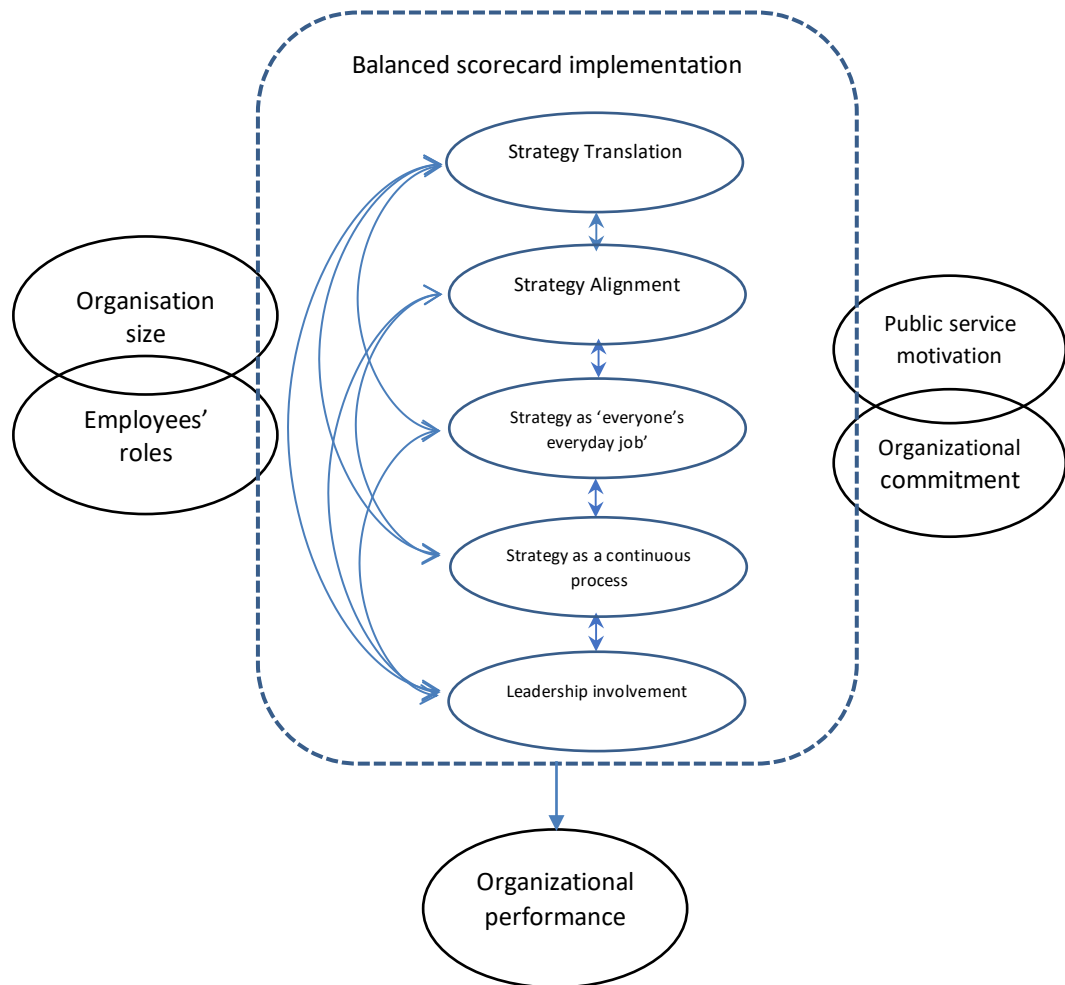
Source: Researcher's own construction

The conceptual framework above describes the researcher's entire approach to analysing BSC implementation; it incorporates three stages of analysis. Firstly, this study examines how the organisation has implemented the BSC by using the SFO principles as the indicators. Secondly, this study explores how organisational factors, specifically, organisation size and employees' roles, influence the implementation of the BSC. Lastly, this study examines the extent to which the BSC relates to the employee perspective, in terms of PSM and OC, and to the organisational perspective, in terms of organisational performance (OP). Hence, in

order to facilitate these three stages of analysis, the framework conceptualises the relationships between BSC implementation and organisation size, employees' roles, OC, PSM and OP. The interrelationships amongst the five SFO principles are illustrated to highlight the fact that, to make the BSC work successfully, all five SFO principles of the BSC system must work together and support one other.

4.4 Chapter summary

This chapter has presented a conceptual framework which was developed based on the research questions and hypotheses constructed in this study. The conceptual framework consists of the BSC as represented by the SFO principles: strategy translation, strategy alignment, strategy as everyone's everyday job, strategy as a continuous process, and leadership involvement. These act both as dependent constructs to organisation size and employees' roles and as independent constructs to OC, PSM and OP. The proposed model for the study is tested and analysed in Chapters 6, 7 and 8 of this thesis.

Chapter 5: Research Methodology

5.1 Introduction

This chapter discusses the methodology of this research. The first section begins with the philosophical research orientation. The selection of the quantitative method as research strategy is then discussed. Subsequently, this chapter explains the research design of this study, which is both cross-sectional and longitudinal. This chapter also provides a justification of the selection of the unit of analysis, which is followed by descriptions of the sampling technique, the sample size and the use of a self-administered questionnaire as well as an explanation of how this study analyses the data collected to yield the findings. The next section covers the process or steps of ethical consideration that this study underwent. The penultimate section of this chapter describes the pilot study conducted with 14 respondent employees and three experts. Finally, this chapter concludes with a summary of its contents.

5.2 Philosophical research orientation

There are many definitions of research offered in the literature. Hussey and Hussey (1997) defined research as a process of enquiry and investigation to increase knowledge by adapting a systematic and methodical process. To Sekaran (2003), research is a process to find solutions to a problem after a thorough study and analysis of situational factors. It is believed that research is conducted based on underlying philosophical considerations; according to Blumberg et al. (2014), examining such consideration is beneficial for a researcher to help clarify and facilitate the choice of the research design. Robson and McCartan (2016) emphasized that philosophical stance provides one way of thinking about which kinds of research questions are important and what constitutes the answers to the questions. The underlying philosophical considerations of research constitute what is called the research paradigm. Kuhn (1962, p. viii, cited in Collis and Hussey 2014) defined paradigms as universally recognized scientific achievements that,

for a time, provide model problems and solutions to a community of practitioners. However, the term 'paradigm' can have different meanings for different researchers (Guba 1990; Hussey and Hussey 1997). Guba (1990) suggested that it is intellectually useful for the term not to be fixed with a certain definition because flexibility opens the possibility for researchers to modify the term based on their own understanding. Furthermore, Guba (1990, p.17) defines the paradigm as a basic set of beliefs that guide actions, whether those actions are of the everyday variety or are performed in connection with a disciplined inquiry. Saunders et al. (2009), however, defined a paradigm more specifically as a method determining social phenomena from which particular understandings and explanations of these phenomena can be achieved. According to Bryman (2015), the paradigm originates from the history of science; in that context, it was used to picture a cluster of beliefs and dictates intended for scientists in a particular discipline to influence what should be studied, how research should be done, and how results should be interpreted. Cresswell (2014) has introduced a term related to the paradigm, the 'worldview', which he defines as a general philosophical orientation regarding the world and the nature of the research that the researcher brings to a study. Collis and Hussey (2014, p. 10) defined a research paradigm as a philosophical framework that guides how scientific research should be conducted, based on people's philosophies and their assumptions about the world and the nature of knowledge.

Guba (1990) suggested that three questions—the ontological, epistemological and methodological—may help a researcher to determine which paradigm to adopt in a study. The author defined those three basic considerations as follows: first, ontology questions the nature of the knowable and the nature of reality. Hussey and Hussey (1997) produced a similar definition of ontology. Creswell (2009) defined it as making claims about what knowledge is; Collis and Hussey (2014) suggested a broader understanding, positing that a researcher must decide whether consider the world as objective and external to the researcher or socially

constructed and only understandable through examining the perceptions of human actors. Second, epistemology questions the nature of the relationship between the inquirer and the known (Guba, 1990). Likewise, Hussey and Hussey (1997) explained epistemology as an inquiry into the relationship between the researcher and that which is being researched. Third, methodology refers to the ways in which the inquirer attains the knowledge or forms the overall approach to the research process (Guba, 1990; Hussey and Hussey, 1997).

According to Thietart et al. (2001), there are three major paradigms representing the main epistemological streams in organisational science: the positivist, interpretivist and constructivist paradigms. Table 5.1 illustrates the differences among the three paradigms based on the responses to epistemological questions.

Table 5.1 Differences among research paradigms

Epistemological questions	Paradigms		
	Positivism	Interpretivism	Constructivism
What is the status of knowledge?	Ontological hypothesis: The knowledge object has its own essence	Phenomenological hypothesis: The essence of the object is multiple (interpretivism), cannot be attained (moderate constructivism) or does not exist (radical constructivism)	
	Independent of subject and object	Dependence of subject and object	
What is the nature of reality?	Determinist hypothesis: The world is made up of necessities	Internationalist hypothesis: The world is made up of possibilities	
How is knowledge generated?	Discovery	Interpretation	Construction
	The research questions are formulated in terms of 'for what reasons…'	The research questions are formulated in terms of 'what motivates actors to…'	The research questions are formulated in terms of 'to what ends does…'
	Privileged status of explanation	Privileged status of understanding	Privileged status of construction
What is the value of knowledge?	Degree of confirmation	Credibility Transferability	Adequacy 'Teachability'

	Refutability Logical consistency	Dependability Confirmability	

Source: Adapted from Thietart et al. (2001, p. 15)

Saunders et al. (2003, p. 83) suggested that research philosophies can be differentiated based on the ways in which researchers think about the development of knowledge. Saunders and colleagues classified the research philosophy into positivism, interpretivism and realism. To these authors, positivist philosophy embodies the following characteristics: objectivism in the role of the analyst, interpretation of the data collected in a value-free manner, quantifiable observation using statistical analysis and independence of the researcher from the research's subject. Interpretivism seeks to understand the subjective reality of the actors under study in order to be able to make sense of and understand their motives, actions and intentions in a way that is meaningful for research participants (Saunders et al. 2003, p. 84). Lastly, realism is based on the belief that a reality exists that is independent of human thoughts and beliefs. Realism shares some philosophical qualities with positivism, for instance as relates to the external, objective nature of some macro aspects of society. Realism also recognises that people themselves are not objects to be studied in the style of natural science. Employing realism entails 'an awareness of the importance of understanding people's socially constructed interpretations and meanings, or subjective reality, within the context of seeking to understand broader social forces, structures or processes that influence, and perhaps constrain, the nature of people's views and behaviours' (Saunders et al. 2003, p. 85).

Blumberg et al. (2014), however, suggested that the two most prominent research philosophies are positivism and interpretivism. They advised that positivism starts from the idea that the world can be described by objective facts, followed by an investigation of those facts. Interpretivism, by contrast, refers to a primary interest in subjective meanings and interpretations of phenomena to detect what is happening in a specific situation (Blumberg et al. 2014, p. 18). Collis and Hussey (2014) also suggested that positivism and interpretivism are the two main

research paradigms. They differentiated between the two based on certain philosophical assumptions as provided in Table 5.2.

Table 5.2 The assumptions of positivism and interpretivism

Philosophical Assumptions	Positivism	Interpretivism
Ontological assumptions (the nature of reality)	Social reality is objective and external to the researcher	Social reality is subjective and socially constructed
	There is only one reality	There are multiple realities
Epistemological assumptions (what constitutes valid knowledge)	Knowledge comes from objective evidence about observable and measurable phenomena	Knowledge comes from subjective evidence from participants
	The researcher is distant from the phenomena being studied	The researcher interacts with the phenomena being studied
Axiological assumptions (the role of values)	The researcher is independent from the phenomena being studied	The researcher acknowledges that the research is subjective
	The results are unbiased and value-free	The findings are biased and value-laden
Rhetorical assumptions (the language of research)	The researcher uses the passive voice, accepted quantitative terms and set definitions	The researcher uses the personal voice, accepted qualitative terms and limited a priori definitions
Methodological assumptions (the process of research)	The researcher takes a deductive approach	The researcher takes an inductive approach
	The researcher studies cause and effect and uses a static design in which categories are identified in advance	The researcher studies the topics within their contexts and uses an emerging design in which categories are identified during the process
	Generalisations lead to predictions, explanations and understanding	Patterns and/or theories are developed for understanding
	Results are accurate and reliable through validity and reliability	Findings are accurate and reliable through verification

Source: Adapted from Collis and Hussey (2014).

Turning to the present research, it investigates the practice of performance management based on BSC to study the BSC's relationships with OC, PSM and OP

within twelve public-sector organisations. To determine the paradigm most appropriate for this research, it is necessary to consider its attributes. Among these are the use of large survey questionnaires, which serve as 'objective knowledge or facts' (Saunders et al. 2003; Blumberg et al. 2014; Robson and McCartan 2016); the researcher himself as independent from the responding public-sector organisations; and the extensive use of quantitative analysis (Thietart et al. 2001; Blumberg et al 2014; Collis and Hussey 2014). Thus, the positivist paradigm is the philosophical orientation that most closely approximates that of the present study.

5.3 Selection of the research strategy

Bryman (2015) classified research strategies into quantitative and qualitative strategies. With regard to the acceptance of these two concepts, there has been a great deal of debate among researchers as to which is the more reliable of the two. In fact, as noted by Thietart et al. (2001), the dissimilarity is both unclear and ambiguous. Similarly, Bryman (2015, p. 31) mentioned that for many researchers, quantitative and qualitative research differ with respect to their epistemological foundations as well as in other points. Saunders et al. (2003) posited that quantitative research is associated with a deductive approach whose focus is on testing the theory, but they also suggested that quantitative research may incorporate an inductive approach, in which data is used to develop a theory, as well. Creswell (2014) suggested that there are two major quantitative designs: survey research and experimental research, each of which applies different process. Survey research provides a quantitative or numeric description of the trends, attitudes, or opinions of a population by studying a sample of that population. Meanwhile, experimental research seeks to determine whether a specific treatment influences an outcome. Bryman (2015), however, offered a more practical definition, stating that quantitative research is a research strategy that emphasises quantification in the collection of data and analysis of data. Moreover, Bryman (2015) explained quantitative strategies as entailing a

deductive approach to the relationship between theory and research in which the accent is placed on the testing of theories.

Like its counterpart, the qualitative method has many definitions. According to Thietart et al. (2001), qualitative research methods allow for both the researcher's subjectivity and that of the subjects. Bryman (2015) identified qualitative research as a research strategy that usually utilises more words than quantification in the collection and analysis of data. Bryman elaborated on this by stating that qualitative research values three fundamental characteristics: an inductive approach to the relationship between theory and research, in which emphasis is placed on the generation of theories; a rejection of the practices and norms of the natural scientific model, and of positivism in particular, preferring an emphasis on how individuals interpret their social world; and a view of social reality as a constantly shifting, emergent property of individuals' creations. To clarify the differences between the two research strategies, Bryman (2015) summarized the fundamental differences between quantitative and qualitative strategies as shown in Table 5.3.

Table 5.3: Fundamental differences between quantitative and qualitative strategies

	Quantitative	Qualitative
Principal orientation to the role of theory in relation to the research	Deductive, testing of theory	Inductive, generation of theory
Epistemological orientation	Natural science model, in particular positivism	Interpretivism
Ontological orientation	Objectivism	Constructionism

Source: Adapted from Bryman (2015, p. 32)

The present study examines the implementation of BSC as a performance management method in twelve Indonesian customs and excise organisations. The research itself is conducted based on the conceptual framework that was developed from the theory of SFO representing BSC implementation, OC, PSM and OP. Adhering to the definitions of quantitative and qualitative strategy suggested above, particularly Bryman's (2015), the emphasis of this study is on applying a deductive approach in order to test the theory; in terms of the paradigm, studies utilising a positivistic approach apply a quantitative strategy, while interpretivist studies use qualitative methods (see Collis and Hussey 2014, p. 46). The research strategy of the present study is thus quantitative.

5.4   Research design of the study

Research design provides a practical overview of the central issues involved in the design of social and economic research (Hakim, 2000). Bryman (2015, p. 39) defined research design as a framework for the generation of evidence that is chosen to answer the research questions in which the investigator is interested. Bryman (2015, p. 39) identified the five most frequently used research designs as experimental and related designs; cross-sectional design (survey research); longitudinal design in its various forms, such as the panel study and the cohort study; case study design; and comparative design. With regard to research design,

this study applies a cross-sectional and longitudinal design. The following sections explain the reasons for the choice of research design.

5.4.1   Reasons for cross-sectional research design

Hussey and Hussey (1997) explained that cross-sectional studies are associated with positivistic methodologies, which are designed to attain information on variables in different contexts at the same time. Bryman (2015) offered a similar definition and added that the purpose of the cross-sectional study is to detect patterns of association. Bryman also identified four key elements present in studies using a cross-sectional design: a sample of cases; at a single point; quantitative or quantifiable data; and patterns of associations. The present study meets all of the criteria; it examines the implementation of the BSC as well as the correlation between the implementation of the BSC and OC and PSM within twelve public-sector organisations. The data were gathered from the twelve respondent organisations once during the fieldwork period by means of research questionnaires.

5.4.2   Reasons for longitudinal design

Hussey and Hussey (1997) defined longitudinal design as a study, over time, of a variable or group of subjects that is intended to examine the dynamics of the problem by investigating the same situation or people several times, over the period in which the problem runs its course. Bryman (2015) noted that longitudinal design can allow some insight into the time order of variables and that it may therefore better allow causal inferences to be made than would otherwise be the case. In addition to examining the correlation between the BSC and OC and PSM, this study investigates the relationship between the BSC and OP. In order to provide information on the trend or possible changes between the periods before and after the implementation of the BSC, the OP variables are required over a period of time.

5.5 Justification of the selection of the units of analysis

The decision to conduct this study at the DGCE was based on two main considerations: firstly, the DGCE has implemented performance management based on BSC since 2009. This organisation is one of the pioneers of BSC implementation in the Indonesian government sector; by the time this study began, the PMS had been in place for eight years. It is thus probable that the DGCE is the most appropriate organisation on which to conduct a study on BSC implementation in Indonesia. Secondly, in 2012, the DGCE was honoured with the award for the best reformed government organisation by the National Reform Body (a task force under the Vice President's Office). It is likely that, given the bestowal of this award on the DGCE, its performance management system based on the BSC has been effectively applied. These two considerations justify the selection of this respondent organisation.

With regards to the units of analysis, the DGCE consists of 120 service offices, three of which are large offices and 117 of which are smaller offices, in 34 provinces. To collect data, test and examine every relevant element in all 120 service offices across 34 provinces in Indonesia would be practically impossible to due to time constraints, costs incurred and other human resource issues (Sekaran, 2003). Hence, this study selected twelve offices located in nine cities in four provinces as representatives of the 120 service offices. The twelve offices selected are:

1. MSO of Tanjung Priok
2. MSO of Batam
3. MSO of Soetta
4. CEO of Jakarta
5. CEO of Marunda
6. CEO of Merak
7. CEO of Tangerang
8. CEO of Bekasi
9. CEO of Bogor
10. CEO of Purwakarta

11. CEO of Cikarang
12. CEO of Bandung

To make these selections, the researcher carefully considered several factors that enable the twelve offices chosen to represent the DGCE as a whole. The first consideration was the business process. The Port of Tanjung Priok is the largest seaport in Indonesia, and approximately 70% of all Indonesia's traded goods pass through this port (Ginting et al. 2015; Pang and Gebka 2016); it is under the jurisdiction of MSO of Tanjung Priok. The second consideration was to include all of the DGCE's large offices in the study. Based on Ministerial Decree 234/PMK.01/2015, the large offices in DGCE are the MSOs of Tanjung Priok, Batam and Soetta. Hence, all three offices were included in the study. The third consideration was the homogeneity of the business process. The researcher chose the twelve selected offices due to their similar approaches to the business process. The selected offices, moreover, share the same key performance indicators to measure OP. On the basis of the three aforementioned considerations, the implementation of the BSC in the twelve chosen customs and excise organisations may represent that of the DGCE as a whole.

5.6   Sampling technique

The fact that, at the time of data collection for the present study, all twelve respondent organisations had implemented the BSC framework to the individual level encouraged the researcher to include all levels of employees within the respondent organisations. This was intended to generate a more comprehensive picture of BSC implementation and its consequences for OC and PSM, something that appears not to have been attempted in previous studies. For the purpose of this research, which is to attain a comprehensive picture within the organisation, the research participants were drawn from top management levels, excluding organisation heads, to staff levels. Therefore, this study applies purposive or judgmental sampling. Purposive sampling enables researchers to select the cases

that best satisfy their specific needs, in the end fulfilling the research objectives (Saunders et al. 2003; Robson and McCartan 2016).

5.7 Sample size

Bryman (2015) suggested that decisions about sample size invariably represent a compromise between the constraints of time and cost, the need for precision, considerations regarding the homogeneity and heterogeneity of the population from which the sample is to be taken, and the type of analysis that the study intends to carry out. One of the research questions of the present study is: *To what extent are organisational factors associated with the implementation of the BSC*? The organisational factors referred to in the research question are organisation size and employee roles. To answer this question, the researcher needed to include employee roles at all levels, excluding organisational heads, at each of the twelve offices. Realising that increasing the sample size is likely to increase the precision of the sample (Bryman 2015), the researcher followed Krejcie and Morgan (1970) in determining the sample size. This determination was then used as the reference when distributing the research questionnaires to the twelve respondent organisations. The distribution of research questionnaires in each unit of analysis is provided in Table 5.4.

Table 5.4 Research questionnaire distribution

	Office	Organisational Size	Questionnaires Distributed
1	MSO, Tanjung Priok	Large organisation	325
2	MSO, Batam	Large organisation	180
3	MSO, Soetta	Large organisation	320
4	CEO, Marunda	Small organisation	120
5	CEO, Jakarta	Small organisation	130
6	CEO, Tangerang	Small organisation	144
7	CEO, Merak	Small organisation	80
8	CEO, Bogor	Small organisation	145
9	CEO, Bekasi	Small organisation	165

10	CEO, Cikarang	Small organisation	140
11	CEO, Purwakarta	Small organisation	110
12	CEO, Bandung	Small organisation	110
Total			1969

Note: Information regarding the response rate can be found on p. 132.

5.8   Research methods for data collection

This study involved twelve organisations (CEOs) located in nine cities across four provinces. In each CEO, the researcher took samples from employees at all levels, potentially resulting in a large number of participants. In order to meet the objective of this study, which required a large number of samples, the researcher chose the survey as the main data collection method. Apart from the survey as primary data, this study also utilises secondary data from the respondent organisations. Saunders et al. (2003) distinguished between three types of secondary data: documentary, multiple source and survey. Following this classification, the present study collected documentary data such as the organisations' demographics, websites and strategy maps. In terms of multiple source data, this study collected OP reports (compiled from 2009 to 2016). Lastly, with respect to survey data, this study collected organisational customer satisfaction reports (compiled from 2013 to 2016).

For the main data, the researcher used a self-administered questionnaire that originated from the adoption and adaptation of questions used in previous questionnaires as well as the development of new questions (Bourke and Clark 1994, cited in Saunders et al. 2003). The process of designing the questionnaire for this study is illustrated in Figure 5.1.

Figure 5.1 Questionnaire development flow

Source: Researcher's work

5.8.1 Questionnaire development

Collis and Hussey (2014) identify a questionnaire as a list of carefully structured questions chosen after considerable testing with a view to eliciting reliable responses from a particular group of people. The survey questionnaire used in this study covers the subjects of BSC implementation, OC and PSM. BSC implementation is represented in the questionnaire by the five SFO principles as proposed by Kaplan and Norton (2001c): strategy translation, strategy alignment, strategy as everyone's everyday job, strategy as a continuous process, and leadership involvement.

The BSC implementation statements in the questionnaire were developed by the researcher based on the elements of each SFO principle (see Kaplan and Norton 2001) and the 2012 SFO survey of the MoF of Indonesia. In terms of the OC items, this research uses the nine-item questionnaire developed by Balfour and Wecshler (1996) and Srithongrung (2011). PSM is represented by the five-item questionnaire developed by Brewer and Shelden (2000) and Kim (2005).

5.8.2 Questionnaire rating scale

Hussey and Hussey (1997) noted that one of the more frequently used scales in questionnaires is the Likert scale. The authors explained that in the Likert scale, the questions are turned into statements and research participants are asked to determine their level of agreement with each statement by choosing from the numbers in the scale. The questionnaire in this study used a 7-point Likert scale, with 1 representing 'strongly disagree' and 7 representing 'strongly agree'.

5.8.3 Questionnaire refinement

As highlighted by Saunders et al. (2003) and Collis and Hussey (2014), piloting a drafted questionnaire is an essential phase with benefits for both respondents and researchers. For respondents, piloting ensures that completing the questionnaires

will be unproblematic. Meanwhile, the benefit to researchers is in the ease of recording the data (Saunders et al. 2003). This study piloted the drafted questionnaire with groups of respondents composed of both employees at the DGCE and experts. Following Bryman (2015), the piloting was not carried out with employees who work at the offices that would be engaged in the main study. The drafted questionnaires were sent to fourteen employees from several offices in the DGCE excluding the targeted organisations. The drafted questionnaires were also sent to three experts: two from the University of Manchester (one statistician and one research fellow) and one manager from a management consulting agency in Jakarta, Indonesia. The feedback received from the participants in the piloting was used to refine the drafted survey questionnaire. Thus, the output of this phase was the final, ready-to-use research questionnaire for the main study. Details regarding the pilot study are discussed in Section 5.9 of this chapter.

5.8.4 Questionnaire distribution and collection

Due to time constraints and the ability to reach targeted respondents from the respondent organisations, this study utilised the group distribution method, a low-cost method yielding a high probability of response from research participants (Collis and Hussey 2014). For the present study, the researcher contacted the responsible party in each office to ask about the possibility of taking the time in their routine meetings to distribute the survey questionnaires. During the meetings, the researcher explained the purpose of the research, the research process, the rights of the research candidates, how to complete the questionnaires, and how to submit the completed questionnaires (by either submitting directly to the researcher in the meeting or later to the performance manager).

With regard to questionnaire collection, all participants submitted their completed questionnaires to the General Affairs Section of the office. This section is administered by the person in charge or the researcher's contact person in each of the offices. At the agreed time, the researcher visited each of the respondent organisations to collect the completed questionnaires individually from the General Affairs Section.

5.9   Data analysis techniques

The analysis performed in this research falls under the classification of multivariate analysis due to its simultaneous analysis of more than two variables (Hair et al. 2010). With regard to the selection of the analysis technique for this research, it was determined on the basis of how the unique research question needed to be answered. In terms of data analysis, this study applied several analysis techniques: CFA, SEM, panel data regression modelling and growth curve modelling. Figure 5.2 provides explanations of the techniques used in correlation with each research question.

CFA was applied to the first research question, *How do strategy-focused organisations' (SFO) principles relate to each other within implementation of the BSC?*. CFA was chosen because the intention of this question is to check current knowledge, in this case regarding the framework of the BSC (Kaplan and Norton 2001). In a study by Widaman (2003), 'differences in parameters deriving from principal component analysis and common factor analysis were explored in relation to several additional aspects of population data, such as variation in the level of communality of variables on a given factor and the moving of a variable from one battery of measures to another. The results suggested that principal component analysis should not be used if a researcher wishes to obtain parameters reflecting latent constructs or factors'. Regarding factor analysis, Hair et al. (2010) stated that the critical assumptions underlying factor analysis are more conceptual than statistical. Furthermore, Hair et al. (2010) emphasised that the conceptual assumptions underlying factor analysis relate to the set of variables

selected and the sample chosen. In relation to these criteria, the present research constructed the variables based on previous research (Kaplan and Norton 2001); in addition, the sample chosen for this research considered representativeness in terms of the variables and the respondents within each organisation.

The researcher used SEM to analyse the data related to the second research question, *To what extent are organisational factors associated with the implementation of the BSC?*. SEM was chosen because it allows the researcher to examine the structure of interrelationships among latent factors (latent variables). SEM was also used to analyse the data for the third, fourth, and fifth research questions (*Do the SFO principles within the implementation of the BSC have a relationship with organisation commitment? Do the SFO principles within the implementation of the BSC have a relationship with public service motivation? How does organisation commitment relate to public service motivation within an organisation implementing the BSC?*).

Meanwhile, for the last research question, *How is BSC implementation related to organisation performance?*, two analytical tools were used: panel data regression analysis and growth curve modelling. Unlike the first five research questions, which used a cross-sectional design, the final research question utilised a longitudinal design. The availability of OP data generated over a period of time made it possible for researcher to examine the influence of BSC implementation on OP over a number of years. Figure 5.2 summarizes the use of data analysis techniques.

Figure 5.2 Overall research framework and analysis techniques
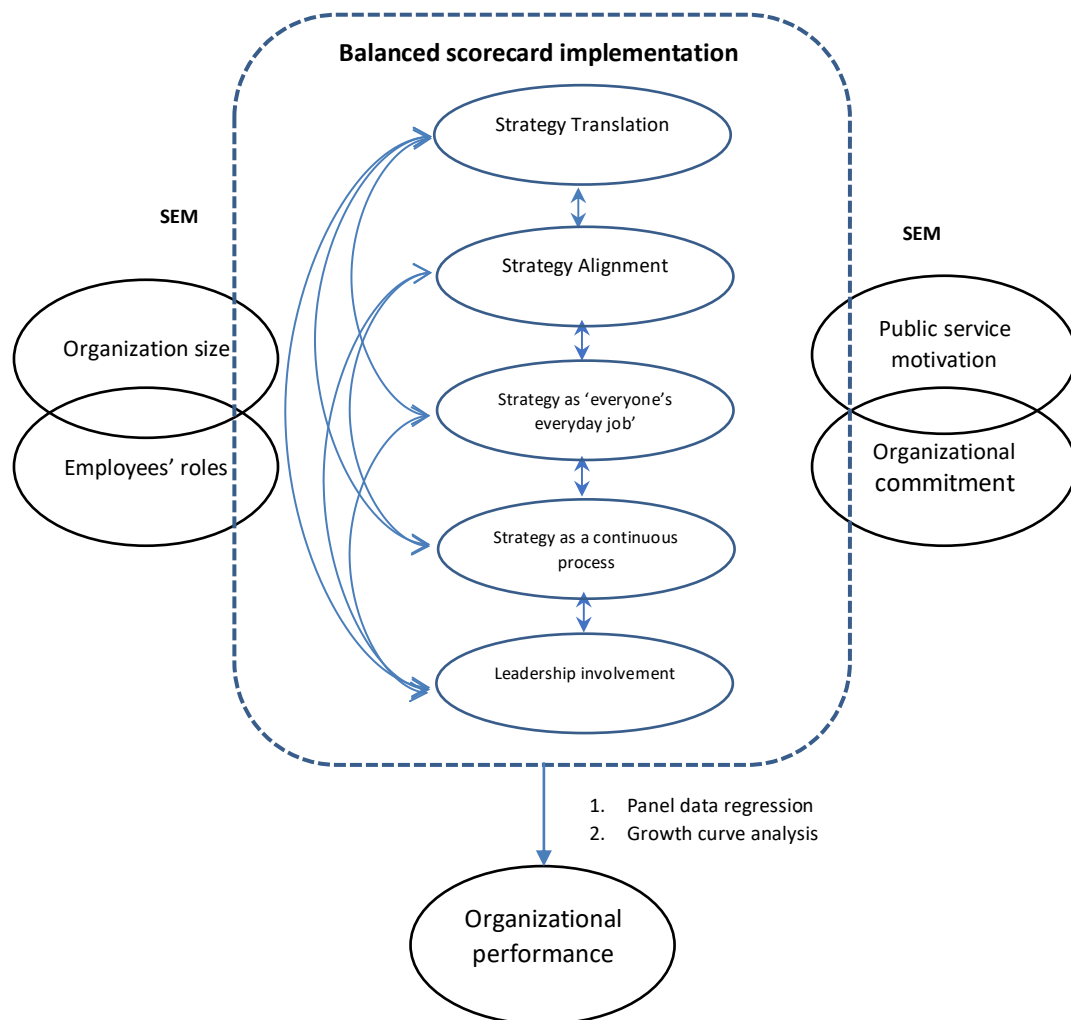
Source: Researcher's own construction

5.10 Ethical considerations

Ethical considerations are an important issue for researchers carrying out research involving people (Hussey and Hussey 1997; Robson and McCartan 2016). Saunders et al. (2003) advised that ethical concerns begin during the planning process, when seeking access to organisations and to individuals, as well as during data collection, analysis, and data reporting. Thus, every stage of the research process must meet ethical standards.

Following the research standards and protocols of the University of Manchester, this study has received ethical approval from the School Ethics Advisory Group (SEAG), which means that the study meets the University of Manchester's ethical standards. During the SEAG review process, the risks involved in the research and the protocol of the research were assessed and approved. Following the checklist for ethical research suggested by Collis and Hussey (2014, p. 35), the researcher took the following steps in order to ensure the meeting of ethical standards:

- *Has the researcher obtained explicit and implicit consent from participants?*

During the fieldwork, researcher sent consent forms (Appendix 4) to potential participants in the twelve respondent organisations. The were questionnaires then distributed to the potential participants who were willing to participate.

- *Has the researcher used coercion to participate?*

In addition to sending consent forms, the researcher also sent a Participation Information Sheet (Appendix 5), one of whose purposes was to inform potential participants that participation was on a voluntary basis. Hence, potential participants decided whether or not to take part in the research.

- *Will the research process or the findings harm participants, those about whom information is gathered or others not involved in the research?*

Every respondent received a Participant Information Sheet which assured that respondents would not be named (that is, that they would remain anonymous).

- *Has the researcher stored personal/confidential data regarding research participants (people and organisations)?*

To input and analyse the data gathered from fieldwork, the researcher used a PC provided by the University of Manchester requiring a unique university ID and password, as well as a personal laptop secured with a password.

- *Has the researcher ensured that participants are anonymous?*

All survey questionnaires distributed to research participants were anonymous.

- *Is the researcher following accepted research practice to conduct the research, analysis and draw conclusions and adhering to community standards of conduct?*

Before proceeding to fieldwork activities, the researcher obtained the required ethical clearance from the School Ethics Advisory Group (SEAG) of the University of Manchester, which confirmed that the research met the University's ethical standards and that the SEAG approved of the research protocols developed.

- *Has the researcher obtained permission before sending mass email?*

The researcher received prior permission from the gatekeeper (Executive Secretary of Indonesian Customs and Excise) to conduct the study on the twelve CEOs selected. This permission gave the researcher authorization to contact each of the respondent organisations directly by means of emails, phone calls and field visits.

5.11 Pilot study

This research began with a pilot study to test the questionnaire draft. All participants in the piloting study were employees of other Indonesian CEOs. In order to ensure an objective result, the pilot study did not include organisations participating in the main study. To obtain a representative picture, the researcher also considered the variance of the respondents in terms of different employees' roles, job duties and office geography to evaluate their understanding of the contents of the questionnaire. Table 5.5 provides detailed information about the participating pilot project respondents; this information confirms the involvement of employees with various roles as well as different CEOs.

The researcher obtained the email addresses and contact phone numbers of the targeted respondents from the Human Resource Division and then contacted them to offer an explanation of the purpose of the activity, which was to ask their perspectives on the drafted questionnaire. Specifically, the researcher

emphasised the need for feedback on the clarity of the directions for filling out the questionnaires, the difficulty of understanding all statements in the questionnaire, the time required to complete the questionnaire, and any other possible aspects of the BSC that should perhaps be included in the questionnaire. If the targeted respondents were willing to participate in the pilot project, the researcher then sent the drafted questionnaire by email. A total of twelve drafted questionnaires were sent.

Table 5.5 Distribution of survey questionnaires for pilot study

	Employee role	Organisation	Status
1	Echelon 4	CEO of Bitung	Responded
2	Senior Staff	Human Resource Management Division, Secretariat General of Customs and Excise	Responded
3	Echelon 5	CEO of Gresik	Responded
4	Senior Staff	CEO of Gresik	Responded
5	Staff	CEO of Gresik	Responded
6	Echelon 4	CEO of Atambua	Responded
7	Senior Staff	CEO of Makasar	Responded
8	Echelon 5	CEO of Tanjung Priok	Responded
9	Echelon 4	Human Resource Division, Headquarters of Directorate General of Customs and Excise	Responded
10	Senior Staff	Directorate of Internal Compliance of Directorate General of Customs and Excise	Responded
11	Organisation Head	CEO Post Office of Jakarta	Did not respond
12	Echelon 4	CEO Post Office of Belawan	Did not respond

Overall, the response rate was 83% (10 out of 12 draft questionnaires returned). The response period had a duration of two weeks in January 2016, from the sending out of the drafted questionnaires until the receipt of all answered drafted questionnaires from the pilot study of twelve participants. Several items of feedback were given by the respondents; for instance, that the drafted questionnaire was easy to understand and that the questionnaire did not include any directive or ambiguous statements.

In order to get feedback from experts, the drafted questionnaire was also sent to one statistician and one research fellow at the University of Manchester, both of whom possess in-depth knowledge of survey research, and one practitioner in a private management consultancy in Indonesia. The researcher received fruitful comments from the experts regarding the drafted questionnaires and was offered suggestions to increase the response rate, particularly with regard to cultural values that might affect potential respondents' willingness to complete or return the questionnaires. Some of the helpful suggestions were, for example: to personally distribute the research questionnaires to each organisation; to avoid spreading a single question over two pages due to lack of space, which could mislead the respondents; and to change the Indonesian language wording in several places to make certain statements easier to understand. In the final step, the researcher finalised the drafted questionnaires incorporating the comments and input received from the pilot project respondents as well as from two academic experts and one practitioner. The researcher then used the completed survey questionnaire (**Appendix 3**) for the fieldwork activities.

5.12 Chapter summary

This chapter has explained the research methodology applied in this study. This study takes a positivist philosophical position in that it exhibits positivist characteristics; for instance, the researcher was distant from the phenomena under study (the research utilised a survey questionnaire that was independently completed by the respondents), the knowledge gained originated from objective evidence, and the results were interpreted in a value-free manner. In terms of the research design, this chapter also justifies the choice of a cross-sectional design, which made it possible to gain an overview of how the BSC, in association with OC and PSM, was adopted in the organisations under consideration. In addition, the chapter discusses the selection of a longitudinal design for examining the association between the BSC and OP and the effect of BSC implementation on OP.

This study collected primary data (survey questionnaires) from twelve CEOs in Indonesia. The survey questionnaire consists of seven latent variables: strategy translation, strategy alignment, strategy as everyone's everyday job, strategy as a continuous process, leadership involvement, OC and PSM. In addition to primary data, this study collected secondary data in the form of performance reports, survey reports, and data on organisational characteristics, all of which were used to support the data analysis. A justification for the choice of the twelve customs and excise organisations as the units of analysis is also provided. The ethical process of this study was discussed, as were the piloting activities used to test the drafted questionnaire. The next chapter provides an analysis of the first two research questions: *How do SFO principles relate to each other within the implementation of the BSC?* and *To what extent are organisational factors associated with the implementation of the BSC?*.

This chapter closes with a presentation of the linkages among the aim of the research, the objectives of the research, the research questions, the hypotheses, the research methodology, and the respondents (Table 5.6).

Table 5.6 Linkages of research aim, research objectives, research questions, hypotheses, research methodology and methods, and respondents

Research aim	Research objective	Research question	Hypothesis	Research methodology and methods	Respondents

To explore the implementation of BSC as a performance management system within public-sector organisations in Indonesia with a view to clarifying the nature of BSC practices and their relationship to organisational factors, organisational performance and employee behaviour	i. Explore the theoretical perspectives of balanced scorecard in order to identify the key success factors of balanced scorecard implementation;	RQ1. How do strategy-focused organisations' (SFO) principles relate to each other within implementation of the BSC?	H1: SFO principles correlate positively with each other within the implementation of the BSC.	• Philosophical research orientation: Positivist paradigm
				
				• Research strategy: quantitative
				
				• Research design: cross-sectional and longitudinal
				
				• Methods for data collection:
				
				  • primary data: survey questionnaires
				  • secondary data: performance reports, customer satisfaction survey results
				
				• Data analysis techniques:
				  • CFA
				  • SEM
				  • Panel data regression model
				  • Growth curve analysis
					• Units of analysis:
					 - MSO Tg. Priok
					 - MSO Batam
					 - MSO Soetta
					 - CEO Marunda
					 - CEO Jakarta
					 - CEO Tangerang
					 - CEO Merak
					 - CEO Bogor
					 - CEO Bekasi
					 - CEO Cikarang
					 - CEO Purwakarta
					 - CEO Bandung
					
					• Distributed to 1,969 employees at 12 CEOs, with the following compositions in each of the organisations:
					
					 - All middle management-level employees;
					 - Representatives of first-line managers
					 - Representatives of staff-level employees under each of the line managers

	ii. Review balanced scorecard practices in order to clarify organisational factors that affect the balanced scorecard as well as the ways in which the balanced scorecard implementation affect employee behaviour	**RQ2**. To what extent are organisational factors associated with the implementation of the BSC?	H2. The large organisation has more influence on the implementation of BSC than the small organisation. H2a.The level of BSC strategy translation is higher for employees working in large organisations than for employees working in small organisations; H2b.The level of BSC strategy alignment is higher for employees working in large organisations than for employees working in small organisations;	• Primary data: survey questionnaires • Data analysis technique: SEM	

	and organisational performance; iii. Develop a conceptual framework of balanced scorecard implementation in the public-sector organisation to describe the relationship between organisational factors and the balanced scorecard and define the ways in which its implementation contributes to employee behaviour and organisational performance; and iv. Test and examine the conceptual framework in order to discover the extent to which organisational factors influence the implementation of the balanced scorecard and the extent to which balanced scorecard implementation relates to employee behaviour and organisational performance within the public-sector organisational context.		H2c. The level of the strategy everyone's everyday job through in large organisation is higher than that of small organisation; H2d. The level of the strategy as a continuous process through BSC in large organisation is higher than that of small organisation; H2e. The level of the leadership involvement through a BSC in the large organisation is higher than that of the small organisation. H3. Employees holding strategic roles have more influence on BSC implementation than other employees. H3a. The level of strategy translation through BSC of employees holding strategic roles is higher than the rest of employees; H3b. The level of strategy alignment through BSC of employees holding strategic roles is higher than the rest of employees; H3c. The level of the strategy everyone's everyday job through BSC of employees holding strategic roles is higher than the rest of employees; H3d. The level of the strategy as a continuous process through BSC of employees holding strategic roles is higher than the rest of employees; H3e. The level of the leadership involvement through a BSC of employees holding strategic roles is higher than the rest of employees.	
		RQ3. Do the SFO principles within the implementation of the BSC have a relationship with organisational commitment?	H4. The SFO principles within the implementation of the BSC are positively associated with organisational commitment. H4a. The better the strategy translation through BSC implementation, the more employees' organisational commitment will increase; H4b. The better the strategy alignment through BSC implementation, the	• Primary data: survey questionnaires • Data analysis technique: SEM

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			more employees' organisational commitment will increase; H4c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' organisational commitment will increase; H4d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' organisational commitment will increase; H4e. The better the leadership involvement through BSC implementation, the more employees' organisational commitment will increase.		
		RQ4. Do the SFO principles within the implementation of the BSC have a relationship with public service motivation?	H5. The SFO principles within the implementation of the BSC are positively associated with PSM. H5a. The better the strategy translation through BSC implementation, the more employees' public service motivation will increase; H5b. The better the strategy alignment through BSC implementation, the more employees' public service motivation will increase; H5c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' public service motivation will increase; H5d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' public service motivation will increase; H5e. The better the leadership involvement through BSC implementation, the more employees' public service motivation will increase.	• Primary data: survey questionnaires • Data analysis techniques: SEM	

		RQ5. How does public service motivation relate to organisational commitment within an organisation implementing the BSC?	H6. Public service motivation is positively associated with organisational commitment within organisations that apply the BSC as their performance management system.	• Primary data: survey questionnaires • Data analysis technique: SEM	

		RQ6. How is BSC implementation associated with organisational performance?	H7. The implementation of the BSC is positively associated with organisational performance.	• Secondary data: performance reports, customer satisfaction survey results, ministerial decrees regarding organisational structure
				• Data analysis techniques:
				  - Panel data regression model
				  - Growth curve analysis
					Twelve organisations as the respondents

Chapter 6: Findings on the Associations of Organisation Size and Employee Roles with the BSC

6.1 Introduction

The main aim of this chapter is to present the first set of empirical evidence based on the first two research questions of the study: first, *How do strategy-focused organisations' (*SFO) principles relate to each other within implementation of the BSC? and second, *To what extent are organisational factors associated with the implementation of the BSC?* The first research question involves analysing BSC implementation using the framework of the SFO principles. Meanwhile, the second research question entails the analysis of external factors, which in this study are represented by organisation size and employee roles, to examine how these factors may influence the implementation of the BSC. In terms of organisation size, this research divides organisations into two groups, large and small organisations, based on organisational structure and number of employees as stipulated in Minister of Finance Decree of the Republic of Indonesia Number 206.3/PMK.01/2014. Meanwhile, with respect to employees' roles, this research divides groups of employees according to their job levels.

This chapter begins with a discussion of the distribution, collection and response rate of the survey questionnaire. This is followed by an introduction to the descriptive statistics, which provide information about the nature of the respondents from the perspective of employees' ages, education levels, gender, professional roles, working ranks, and organisation tenure. The next part of the chapter offers an analysis of confirmatory factor analysis (CFA) to validate the BSC implementation model, which was built based on the SFO principles introduced by Kaplan and Norton (2001c). In this process, the SFO principles were applied as five latent variables: strategy translation (st), strategy alignment (sa), strategy as everyone's everybody job (sj), strategy as a continuous process (sp) and leadership involvement (li). After validating the model using CFA, the next section applies the

model to examine the relationships of organisation size and employees' roles with BSC implementation. Subsequently, hypothesis testing is presented, consisting of a comparison of the hypotheses constructed with the findings from this study. Finally, this chapter concludes with a summary of the empirical findings regarding the BSC, organisation size and employee roles.

6.2   Distribution, collection and response rate of the survey questionnaire

The survey questionnaires were distributed by the researcher personally at each respondent organisation during the fieldwork period. For purposes of effectiveness, all respondent offices had been contacted months before the visits to ask their willingness to participate in the research. The researcher coordinated with the performance manager of each office to make sure that the visit would give the researcher an opportunity to meet directly with potential respondents and with the head of the organisation. The survey questionnaire distributions were conducted principally during routine gatherings or meetings in each office. Generally, the meetings started with the researcher's explanation of the purpose of the research and the purpose of the researcher's visit to the office. All of this information was also available in the research consent forms attached to and distributed with the survey questionnaire. During the meeting, the researcher explained that the potential respondents had been selected by their office based on the criteria that the researcher had provided and that they were entirely free to decide whether to participate in the research. The employees who agreed to participate were then given the survey questionnaires, participant information sheets, and consent forms from the University of Manchester. In the meeting, the research respondents were also requested to return the completed questionnaires to their office's Human Resources Section within two weeks' time. After two weeks, the researcher returned to each customs and excise organisation to collect the completed survey questionnaires from their respective Human Resource Sections.

Due to the Indonesian language's status as Indonesia's official language and to the importance of avoiding any misinterpretation of the questionnaire, the researcher provided the survey questionnaires in the Indonesian language. During the fieldwork process, the researcher was able to collect 1,675 completed survey questionnaires, reflecting a response rate of 85%. As can be seen in Table 6.1, the MSO of Tg. Priok contributed the greatest number of respondents, with 301 participants, or 18% of the total survey questionnaires returned. The office returning the second largest number of contributing respondents was MSO Soetta, with 233 participants (14% of the total survey questionnaires returned). MSO Batam was the third largest contributor with 168 participating employees (10% of the total survey questionnaires returned). Table 6.1 below recapitulates the distribution and collection of the survey questionnaires in each of the customs and excise organisations.

Table 6.1 Distribution, collection and response rate of the survey questionnaire

	Office	Organisation Size	Questionnaires Distributed	Questionnaires Collected	Response rate
1	MSO Tg. Priok	Large	325	301	92%
2	MSO Batam	Large	180	168	93%
3	MSO Soetta	Large	320	233	73%
4	CEO Marunda	Small	120	118	98%
5	CEO Jakarta	Small	130	81	62%
6	CEO Tangerang	Small	144	143	99%
7	CEO Merak	Small	80	77	96%
8	CEO Bogor	Small	145	115	79%
9	CEO Bekasi	Small	165	159	96%
10	CEO Cikarang	Small	140	92	66%
11	CEO Purwakarta	Small	110	93	84%
12	CEO Bandung	Small	110	95	86%
Total			**1969**	**1675**	**85%**

For the purpose of the extended study, the researcher classified the participating organisations into large and small organisations following the office typology as stipulated in Minister of Finance Decree of the Republic of Indonesia Number 206.3/PMK.01/2014. Based on this typology, the MSOs of Tanjung Priok, Batam and Soetta qualify as large organisations, while the CEOs of Marunda, Jakarta,

Tangerang, Merak, Bogor, Bekasi, Cikarang, Purwakarta and Bandung are classified as small organisations. With this organisational size classification, the researcher then examined the association of both the large and small organisations with implementation.

6.3   Research questions, hypotheses and rationale construction

This chapter provides results on the use of the BSC as represented by the SFO principles initially stated by Kaplan and Norton (2001c). The five SFO principles are strategy translation (st), strategy alignment (sa), strategy as everyone's everyday job (sj), strategy as a continuous process (sp) and leadership involvement (li). Furthermore, this chapter contains two major analyses: the confirmation of the BSC implementation model according to the framework of the five SFO principles and the examination of BSC usage. In the latter part of the chapter, the researcher also provides the findings regarding the association of BSC implementation with organisation size and strategic roles/other employee roles within the twelve customs and excise organisations. Table 6.2 displays a summary of the hypotheses as they correspond to the research questions addressed in this chapter.

Table 6.2 Links between research questions and hypotheses

Research question	Hypothesis
RQ1. How do SFO principles relate to each other within the implementation of the BSC?	H1. SFO principles correlate positively with each other within the implementation of the BSC.
RQ2. To what extent are organisational factors associated with the implementation of the BSC?	H2. The large organisation has more influence on the implementation of BSC than the small organisation. H2a. The level of BSC strategy translation is higher for employees in large organisations than for employees in small organisations; H2b. The level of BSC strategy alignment is higher for employees in large organisations than for employees in small organisations; H2c. The level of the strategy everyone's everyday job through in large organisation is higher than that of small organisation; H2d. The level of the strategy as a continuous process through BSC in large organisation is higher than that of small organisation; H2e. The level of leadership involvement in BSC is higher in large organisations than in small organisations.
	H3. Employees holding strategic roles have more influence on BSC implementation than other employees. H3a. The level of BSC strategy translation is higher among employees holding strategic roles is higher than among other employees; H3b. The level of BSC strategy alignment is higher among employees holding strategic roles than among other employees; H3c. The level of implementation of the BSC strategy as everyone's everyday job is higher among employees holding strategic roles than among other employees; H3d. The level of BSC strategy as a continuous process is higher among employees holding strategic roles than among other employees; H3e. The level of BSC leadership involvement is higher among employees holding strategic roles than among other employees.

In this study, large organisation size is hypothesised to have a positive relationship with the implementation of the BSC because a broader set of information and measurements arises in larger organisations, requiring more advanced and more sophisticated management accounting systems (Speckbacher et al. 2003). This

study also takes note of the research of Hoque and James (2000), who concluded that larger organisations make more use of the BSC.

The term 'strategic positions', as used in Table 6.2 above, refers to employee roles that are one level below the head of the organisation. The rationale for this selection is that employees who are one level under the head of the organisation in the twelve CEOs are employees who engage in direct consultation and discussion regarding organisational strategies and other matters with the heads of their respective organisations. Therefore, it is hypothesised that employees who hold strategic positions tend to have more influence over the success of BSC implementation due to the BSC's nature as a method to translate organisational visions and strategies into operating activities as explained by Kaplan and Norton (1996b).

6.4 Individual constructs

This research adopts five latent variables (constructs) from Kaplan and Norton's SFO principles (2001c). These latent variables of the research model, along with their definitions, are as follows:

1. Strategy translation (st): measuring the extent to which an employee understands the organisation's strategies and his/her contribution in achieving the strategies.
2. Strategy alignment (sa): measuring the extent of an employee's awareness of how his/her daily work with other employees from different sections and divisions, vertically and horizontally, actually aligns to achieve the same organisational strategies and goals.
3. Strategy as everyone's everyday job (sj): measuring the extent of an employee's understanding of his/her key performance indicators in relation to organisational strategies, which are the communication strategies used within the organisation to educate employees about key strategic components and about how the rewards system is attached to the BSC.
4. Strategy as a continuous process (sp): measuring the extent to which an organisation provides a system for supporting employees' efforts to meet organisational strategies and objectives.

5. Leadership involvement (li): getting to know how leaders in the organisation play a role in encouraging other employees to enhance performance to meet targeted outcomes.

As regards latent variables, Bartholomew et al. (2011) posited the reduction of dimensionality as one of the reasons for which latent variables should be introduced into a model. The authors explained that the information contained in the interrelationships of many variables can be better approximated if the variables are placed in a much smaller set of variables, thus enabling an overview of the structure of the data. The rationality of such a course is often evident from the fact that many questions overlap in the sense that they are measuring the same object. In such a situation, the latent variable is introduced to condense the many variables into a much smaller number of indices with as little loss of information as possible. In that sense, the five latent variables enumerated above represent 24 observed variables measured in the survey questionnaire to obtain a better sense of the structure of the data with fewer dimensionalities.

6.5 Descriptive statistics

The descriptive statistics in this study are divided into three parts: the individual characteristics of the respondents, the distribution of the completed questionnaires, and the descriptive statistics of the construct variables. The descriptive statistics on individual characteristics contain information regarding the distribution of responding employees in terms of age, gender, education level, employee role, working rank and working tenure. Meanwhile, the distribution of the completed questionnaires comprises a summary of the responses to the questionnaire items about the BSC on 7-point Likert scales. The descriptive statistics of the construct variables provide information regarding means, standard deviations and the Spearman's rank correlation coefficients.

6.5.1   Descriptive statistics of respondents' characteristics

The survey respondents were dominated by employees aged 18 to 45. This age group represented more than 78% of the respondents who completed questionnaires (1,298 of 1,675), followed by respondents aged 51 to 55 with 9.45% (157), those aged 46 to 50 with 6.92% (115) and those 55 and older with 5.48% of the total number of respondents (91 of 1,675). From the gender perspective, 85.4% (1430) were men and 13.7% (230) were women. In terms of educational level, 35.6% (596) employees had obtained a Diploma I, Bachelor's graduates were in second place with 25.4% (425) employees, and the remainder of the respondents varied, having obtained a Diploma III, master's degree, high school diploma or a doctoral degree.

With regard to job level classification, staff-level employees contributed the most questionnaires with 63.3% (1,061), followed by Echelon 5 with 19.4% (325), Echelon 4 with 10% (167), functional officers with 5.7% (96) and Echelon 3 with 1.4% (23). In terms of working rank, 51.2% (858 employees) were at Rank II, 43.2% (730 employees) were at Rank III and 5.1% (85 employees) were at Rank IV. From the perspective of working years, the majority (74.6%) of respondents had been at their respective organisations for fewer than 5 years (1,251 employees), followed by employees who had been at their respective organisations for more than 10 years at 16.5% (276 employees) and employees with 6-10 years tenure at 7.9% of respondents (133 employees). Table 6.3 provides detailed information regarding respondent age, gender, educational level, employee role, working rank and organisation tenure.

Table 6.3 Descriptive statistics of respondents' characteristics

Individual characteristics	Frequency	Percentage (%)	Missing (%)
Age			
18-30 years old	782	47.08	0.8
>30-45 years old	516	31.07	
>45-50 years old	115	6.92	
>50-55 years old	157	9.45	
>55 years old	91	5.48	
Gender			
Male	1430	85.4	0.9
Female	230	13.7	
Education			
High school	185	11.0	1.1
Diploma I	596	35.6	
Diploma III	235	14.0	
Bachelor's degree	425	25.4	
Master's degree	214	12.8	
Doctoral degree	1	0.1	
Employees' role			
Staff	1061	63.3	0.2
Functional officer	96	5.7	
Echelon 5	325	19.4	
Echelon 4	167	10	
Echelon 3	23	1.4	
Working rank			
Rank II	858	51.2	0.1
Rank III	730	43.6	
Rank IV	85	5.1	
Working tenure			
< 1 year	384	22.9	0.9
1-2 years	406	24.2	
> 2-5 years	461	27.5	
>5-10 years	133	7.9	
>10 years	276	16.5	

6.5.2 Descriptive statistics of 7-point Likert scale responses

Table 6.4 displays the mean, standard deviation and percentage of answers on each point of the Likert scale for each item within the five latent variables. The table shows that the mean of the items in the survey questionnaire ranges from 4.98 (Item st2, 'I know all about our organisation's KPIs') to 6.10 (Item sa1, 'The organisational KPIs are cascaded proportionately'). The range of means shows that most respondents tended to answer within the range of 'neither agree nor disagree' to 'agree' across all items in the questionnaire.

Table 6.4 Summary of 7-point Likert scale questionnaire distribution

Item	Item Question	Mean	Standard Deviation	Percentage						
				(1)	(2)	(3)	(4)	(5)	(6)	(7)
st1	Our organisation's strategy map helps me to better understand our organisation's strategic objectives	5.84	0.82	0.1	.2	.8	5.7	17.3	59.8	16.1
st2	I know all about our organisation's KPIs	4.98	1.42	1.0	9.1	4.4	17.4	22.2	36.4	9.5
st3	I know all about our organisation's KPI targets	5.00	1.41	0.8	8.6	4.6	16.6	23.9	36.1	9.5
st4	My KPIs relate to the organisation's strategic objectives	5.80	0.97	0.1	1.3	1.0	8.0	14.8	55.4	19.4
sa1	The organisational KPIs are cascaded proportionately	6.10	0.71	0	0.1	0.4	2.8	8.5	62.6	25.5
sa2	The organisational KPI targets are cascaded proportionately	5.99	0.76	0.1	0.1	0.7	4.3	8.4	62.2	25.4
sa3	My KPIs are aligned with those of other colleagues at the same level	5.87	0.86	0.1	0.9	1.0	5.4	12.0	64.0	16.5
sj1	My KPIs are in line with the organisational KPIs	5.91	0.79	0.1	0.3	0.8	5.1	12.4	64.1	17.3
sj2	I have good quality KPIs	6.02	0.67	0	0.2	0.4	2.5	10.2	67.9	18.8
sj3	My KPI targets are realistic	6.04	0.68	0.1	0.2	0.5	1.9	9.2	68.7	19.5
sj4	My KPI targets support the accomplishment of organisational targets	6.05	0.73	0	0.4	0.5	2.6	10.2	63.3	23.0
sj5	There is active dialogue with my direct supervisor when determining my KPIs	5.99	0.88	0.1	0.9	1.1	3.8	10.6	58.3	25.1
sj6	There is active dialogue with my direct supervisor when determining my KPI targets	5.79	0.96	0.1	1.4	1.9	4.8	16.5	57.8	17.4
sj7	The rewards system is linked to KPI target achievement	5.41	1.19	0.9	3.1	3.3	10.7	21.5	50.2	10.4
sp1	My competence development is aligned with organisational strategy	5.55	1.014	0.6	1.3	1.7	10.0	20.7	55.8	9.8
sp2	BSC management is supported with sound information technology	5.52	1.09	0.6	1.9	3.7	7.3	23.2	51.3	12.0
sp3	I find the performance reporting procedure easily understandable	5.66	0.99	0.4	1.3	3.1	5.4	19.3	58.2	12.4
sp4	Performance reporting requires solid proof	5.89	0.81	0.1	0.8	0.8	4.3	13.0	64.8	16.3
li1	The head of the organisation educates me about performance management based on the BSC	5.62	1.03	0.2	1.8	1.7	9.2	19.6	53.6	13.8
li2	The head of the organisation provides sufficient information regarding the organisation's strategies and goals	5.86	.906	0.2	1.8	1.7	9.2	19.6	53.6	13.8
li3	I know all about our organisation's objectives	5.55	1.03	0.2	1.4	2.4	9.5	24.5	49.2	12.6
li4	The head of the organisation motivates me to accomplish my targets	5.88	0.96	0.2	0.8	1.7	5.8	14.3	54.2	23.1
li5	My direct supervisor actively guides me to reach my performance goals	5.98	0.89	0.1	0.8	1.4	4.0	10.5	58.5	24.6
li6	My direct supervisor monitors my performance through my KPIs	6.04	0.80	0.2	0.3	0.9	3.4	9.4	61.4	24.5

Notes: (1) = strongly disagree; (2) = moderately disagree; (3) = slightly disagree; (4) = neither disagree nor agree; (5) = slightly agree; (6) = moderately agree; (7) = strongly agree.

6.5.3 Descriptive statistics of construct variables

This section provides information about all observed variables in each latent construct regarding means, standard deviations and Spearman's rank correlation coefficients.

6.5.3.1 Strategy translation

This latent variable consists of four observed variables (st1, st2, st3 and st4). On the 7-point Likert scales, research respondents answered the items representing the four observed variables between 4.98 (± 1.43) and 5.83 (± 0.82), which reflected respondents' strong opinions about strategy translation. Item st1 (Our organisation's strategy map helps me to better understand our organisation's strategic objectives) scored highest score, followed by Item st4 (My key performance indicators relate to the organisation's strategic objectives), and Item st3 (I know all about our organisation's KPI targets), with Item st2 (I know all about our organisation's KPIs) receiving the lowest rating.

Table 6.5 Descriptive statistics of strategy translation variable

Item	Variable	Mean	St.D.	st1	st2	st3	st4
st1	Our organisation's strategy map helps me to better understand our organisation's strategic objectives	5.83	0.82	1			
st2	I know all about our organisation's KPIs	4.98	1.43	0.53*	1		
st3	I know all about our organisation's KPI targets	5.01	1.41	0.54*	0.88*	1	
st4	My KPIs relate to the organisation's strategic objectives	5.80	0.97	0.50*	0.47*	0.51*	1

Note: St.D. = standard deviation.

N=1643; * indicates that correlations are statistically significant at $\rho < 0.01$.

6.5.3.2 Strategy alignment

This latent variable consists of three observed variables (sa1, sa2, and sa3). On the 7-point Likert scale, research respondents answered items corresponding to the

three observed variables between 5.86 (± 0.86) and 6.09 (± 0.70), which reflected respondents' strong opinions about strategy alignment. Item sa1 (The organisational KPIs are cascaded proportionately) scored highest, followed by Item sa2 (The organisational KPI targets are cascaded proportionately). Item sa3 (My key performance indicators are aligned with those of other colleagues at the same level) received the lowest score.

Table 6.6 Descriptive statistics of strategy alignment variable

Item	Variable	Mean	St.D	sa1	sa2	sa3
sa1	The organisational KPIs are cascaded proportionately	6.09	0.70	1		
sa2	The organisational KPI targets are cascaded proportionately	5.99	0.76	0.70*	1	
sa3	My KPIs are aligned with those of other colleagues at the same level	5.86	0.86	0.51*	0.61*	1

Note: St.D = standard deviation.

N=1661; * indicates that correlations are statistically significant at $\rho < 0.01$.

6.5.3.3 Strategy as everyone's everyday job

This latent variable consists of seven observed variables (sj1, sj2, sj3, sj4, sj5, sj6 and sj7). On the 7-point Likert scale, research respondents answered the seven items representing the observed variables between 5.41 (± 1.19) and 6.05 (± 0.73), reflecting respondents' strong opinions on strategy as everyone's everyday job. Item sj4 (My KPI targets support the accomplishment of organisational targets) had the highest score, followed by Item sj3 (My KPI targets are realistic), Item sj2 (I have good quality of key performance indicators) and Item sj5 (There is active dialogue with my direct supervisor when determining my KPIs). Item sj1 (My KPIs are in line with organisational KPIs) placed fifth, followed by Item sj6 (There is active dialogue with my direct supervisor when determining my KPI targets), and the lowest rated item, Item sj7 (The rewards system is linked to KPI target achievement). Overall, the average mean score of the seven observed variables, at 5.88, was far above the neutral point.

Table 6.7 Descriptive statistics of the strategy as everyone's everyday job variable

Item	Variable	Mean	St.D	sj1	sj2	sj3	sj4	sj5	sj6	sj7
sj1	My KPIs are in line with the organisational KPIs	5.9	0.791	1						
sj2	I have good quality KPIs	6.01	0.677	0.63*	1					
sj3	My KPI targets are realistic	6.04	0.681	0.51*	0.63*	1				
sj4	My KPI targets support the accomplishment of organisational targets	6.05	0.732	0.62*	0.60*	0.57*	1			
sj5	There is active dialogue with my direct supervisor when determining my KPIs	5.99	0.887	0.44*	0.48*	0.52*	0.50*	1		
sj6	There is active dialogue with my direct supervisor when determining my KPI targets	5.79	0.958	0.44*	0.44*	0.44*	0.39*	0.66*	1	
sj7	The rewards system is linked to KPI target achievement	5.41	1.189	0.39*	0.38*	0.34*	0.34*	0.36*	0.45*	1

Note: St.D = standard deviation.

N=1645; * indicates that correlations are statistically significant at $\rho < 0.01$.

6.5.3.4 Strategy as a continuous process

This latent variable consists of four observed variables (sp1, sp2, sp3 and sp4). On the 7-point Likert scale, research respondents answered the items corresponding to the four observed variables between 5.52 (± 1.09) and 5.88 (± 0.81), reflecting respondents' strong opinions on strategy as a continuous process. Item sp4 (Performance reporting requires solid proof) reached the highest score, followed by Item sp3 (I find the performance reporting procedure easily understandable), Item sp1 (My competence development is aligned with organisational strategy) and lastly Item sp2 (BSC management is supported by sound information technology) with the lowest score. Overall, the average mean score of the four observed variables was 5.40, which was far above the neutral point.

Table 6.8 Descriptive statistics of strategy as a continuous process variable

Item	Variable	Mean	Std. D	sp1	sp2	sp3	sp4
sp1	My competence development is aligned with organisational strategy	5.55	1.01	1			
sp2	BSC management is supported with sound information technology	5.52	1.09	0.58*	1		

sp3	I find the performance reporting procedure easily understandable	5.66	0.99	0.56*	0.68*	1		
sp4	Performance reporting requires solid proof	5.88	0.81	0.46*	0.53*	0.61*	1	

Note St. D = standard deviation.

N=1656; * indicates that correlations are statistically significant at ρ < 0.01.

6.5.3.5 Leadership involvement

This latent variable consists of six observed variables (li1, li2, li3, li4, li5 and li6). On the 7-point Likert scale, research respondents answered the six items matching the observed variables between 5.55 (± 1.02) and 6.03 (± 0.80), reflecting respondents' strong opinions regarding leadership involvement. Item li6 (My direct supervisor monitors my performance through KPIs) reached the highest score, followed by Item li5 (My direct supervisor actively guides me to reach my performance goals) and Item li4 (The head of the organisation motivates me to accomplish my targets). Item li2 (The head of the organisation provides sufficient information regarding the organisation's strategies and goals) placed fourth, followed by Item li1 (The head of the organisation educates me about performance management based on the BSC). Item li3 (I know all about our organisation's objectives) received the lowest rating. Overall, the average mean score of the six observed variables was 5.82, far above the neutral point.

Table 6.9 Descriptive statistics of leadership involvement variable

Item	Variable	Mean	St.D	li1	li2	li3	li4	li5	li6
li1	The head of the organisation educates me about performance management based on the BSC	5.62	1.03	1					
li2	The head of the organisation provides sufficient information regarding the organisation's strategies and goals	5.86	0.90	0.63*	1				
li3	I know all about our organisation's objectives	5.55	1.02	0.55*	0.59*	1			
li4	Head of the organisation motivates me to accomplish my targets	5.88	0.95	0.64*	0.64*	0.60*	1		
li5	My direct supervisor actively guides me to reach my performance goals	5.98	0.89	0.40*	0.40*	0.38*	0.49*	1	

li6	My direct supervisor monitors my performance through key performance indicator	6.03	0.80	0.41*	0.41*	0.43*	0.48*	0.70*	1

Note: St.D mean standard deviation.

N=1650, * means correlations are statistically significant at $\rho < 0.01$

6.5.3.6 Mean ranking score of latent variables

Table 6.10 provides information on all five latent variables with respect to their number of observed variables, means, standard deviations and mean rankings. Based on the mean rankings, the latent variable of strategy alignment received the highest score (mean= 5.98), followed by strategy as everyone's everyday job (mean= 5.88), leadership involvement (mean= 5.82), strategy as a continuous process (mean= 5.62), and lastly strategy translation (mean= 5.40). From these rankings, it appears that, among the five principles of SFO, strategy alignment has the strongest influence on BSC implementation while strategy translation has the least influence.

Table 6.10 Mean rankings of latent variables

Latent Variable	Number of Observed Variables	Mean	Standard Deviation	Mean Ranking
Strategy translation	4	5.40	1.16	5
Strategy alignment	3	5.98	0.77	1
Strategy as everyone's everyday job	7	5.88	0.845	2
Strategy as a continuous process	4	5.62	0.97	4
Leadership involvement	6	5.82	0.93	3

6.6   Data processing analysis techniques

The analysis of this research is classified as multivariate analysis due to its simultaneous analysis of more than two variables (Hair et al. 2010). With respect to the selection of the analysis techniques, this research applies techniques on the basis of how the unique research questions need to be answered. The first

research question*, How do SFO principles relate to each other within implementation of the BSC?*, was analysed using CFA. As discussed in Chapter 5, following Widaman (2003), Hair et al. (2010) and Kaplan and Norton (2001c), this choice was made because the intention of the question is to check current knowledge, in this case, regarding the framework of the BSC (Kaplan and Norton 2001). Meanwhile, to address the second research question, *To what extent are organisational factors associated with the implementation of BSC?*, the multivariate technique used is SEM. SEM was chosen because of its ability to examine the structure of interrelationships among the latent factors (latent variables). In this case, the latent factors being analysed are the five that were generated from the BSC framework and constructed and confirmed in the first research question. Figure 6.1 summarises the research framework constructed for this chapter.

Figure 6.1 Research framework and techniques for analysis of organisation size, employee roles and the BSC
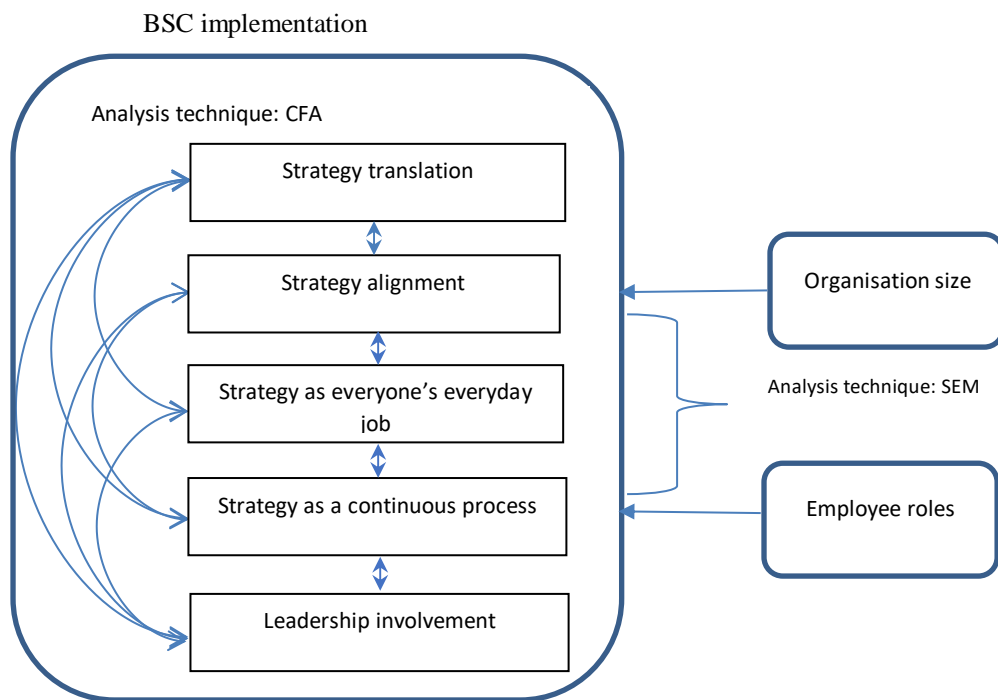
6.7   Data analysis preparation

Prior to the main data analysis process, data screening was conducted to reveal easily overlooked hidden effects and thus enable a clearer view of the data (Hair et al. 2010). Thus, for the purposes of data analysis preparation, this section discusses sample size analysis, missing data, outliers, and normality of data distribution.

6.7.1   Analysis of sample size

In this part of the research, the analytical techniques applied are CFA and SEM. According to Tabachnick and Fidel (2007, p. 682), SEM and factor analysis are techniques intended for large samples. Regarding minimum sample size, Hair et al. (2010) suggested that five considerations should be taken into account when determining the sample size in SEM. These are multivariate normality of the data, estimation technique, model complexity, amount of missing data and average error variance among the reflective indicators. Furthermore, Hair et al. (2010, p. 667) suggested that samples of more than 500 are considered large.

However, Kline (2011) posited that it is difficult to know when a sample is large enough to be analysed using SEM. Kline (2011, p. 12) also explained that more parameters require more estimates and that large samples are therefore needed for reasonably stable results. He then cited Jackson (2003) to explain the N:q rule, which concerns the connection between sample size and model complexity. In this formula, N represents sample size, while q represents a number of model parameters that require statistical estimates. Kline stated that an ideal sample size to parameters ratio would be 20:1. Comrey and Lee (1992, p. 217) suggested that the adequacy of sample size for factor analysis might be evaluated very roughly on the following scale: 50 to 100 samples (very poor), 101 to 200 samples (poor), 201 to 300 samples (fair), 301 to 500 samples (good), 501 to 1000 (very good) and more than 1000 (excellent). Therefore, according to Comrey and Lee, the sample size of 1,675 in this research would be classified as 'excellent'.

6.7.2 Analysis of missing data

Missing data is in general very difficult to avoid when performing research. Missing data may occur for a number of reasons. Allison (2002) named several causes of missing data: research participants might overlook or forget to answer some of the questions, some respondents might refuse to answer some items in the survey questionnaire, or certain questions may not be applicable to some research respondents such that they do not know how to respond. Missing data can be crucial when their numbers are significant to the total sample taken due to the resultant bias created in the analysis results. Despite the researcher's efforts, the possibility of missing values remains, especially with the involvement of a large number of participants (1,675 in the present study). The missing data analysed in this section originated from completed survey questionnaires, excluding items representing observed variables of OC and PSM as these variables are discussed in the next chapter.

Tabachnick and Fidel (2007, p. 63) stated that there is as yet no reliable way to calculate the amount of missing data that can be tolerated for a sample of a given size. In this regard, Hair et al. (2010, p. 47) suggested reaching a determination based on two conditions: first, in individual cases or observations, missing data totalling less than 10 percent can generally be ignored except when the missing data occurs in a specific non-random fashion (for example, when it is concentrated in a specific set of questions). Second, the complete cases must be sufficient for the selected analysis technique if no data imputation process has been conducted. For the present study, the researcher calculated the proportions of missing data in each variable by using codebook command in STATA 14. Table 6.11 provides a summary of missing values distribution in all 24 observed variables. The proportions of missing values for all 24 variables range from 0.36% to 1.13%, and the overall missing values total 69 cases (4.11%). The remaining complete cases available for the subsequent analysis total 1609. Hence, both of Hair and

colleagues' (2010, p. 47) conditions are met: the missing data for individual cases was calculated at 0.36% to 1.13%, and the total observations (4.11%) and the total complete cases (1609) are at an acceptable level.

Table 6.11 Distribution of missing values

Items		M	%	C
Codes	Variables			
st1	Our organisation's strategy map helps me to better understand our organisation's strategic objectives	12	0.72%	1663
st2	I know all about our organisation's KPIs	14	0.84%	1661
st3	I know all about our organisation's KPI targets	19	1.13%	1656
st4	My KPIs relate to the organisation's strategic objectives	18	1.07%	1657
sa1	The organisational KPIs are cascaded proportionately	11	0.66%	1664
sa2	The organisational KPI targets are cascaded proportionately	12	0.72%	1663
sa3	My KPIs are aligned with those of other colleagues at the same level	12	0.72%	1663
sj1	My KPIs are in line with the organisational KPIs	13	0.78%	1662
sj2	I have good quality KPIs	14	0.84%	1661
sj3	My KPI targets are realistic	15	0.90%	1660
sj4	My KPI targets support the accomplishment of organisational targets	15	0.90%	1660
sj5	There is active dialogue with my direct supervisor when determining my KPIs	12	0.72%	1663
sj6	There is active dialogue with my direct supervisor when determining my KPI targets	12	0.72%	1663
sj7	The rewards system is linked to KPI target achievement	14	0.84%	1661
sp1	My competence development is aligned with organisational strategy	13	0.78%	1662
sp2	BSC management is supported with sound information technology	15	0.90%	1660
sp3	I find the performance reporting procedure easily understandable	14	0.84%	1661
sp4	performance reporting requires solid proof	14	0.84%	1661
li1	The head of the organisation educates me about performance management based on the BSC	12	0.72%	1663
li2	The head of the organisation provides sufficient information regarding organisation's strategies and goals	7	0.42%	1668
li3	I know all about our organisation's objectives	12	0.72%	1663
li4	The head of the organisation motivates me to accomplish my targets	10	0.60%	1665
li5	My direct supervisor actively guides me to reach my performance goals	9	0.54%	1666
li6	My direct supervisor monitors my performance through my KPIs	6	0.36%	1669

Note: M = missing values; % = percentage of missing questionnaires of total observations (N = 1,675); C = complete observations.

6.7.3 Analysis of outliers

Kline (2011) defined outliers as the scores that are different from the rest. Hair et al. (2010, p. 64) gave a more detailed definition by referring to outliers as

observations with a unique combination of characteristics identifiable as distinctly different from the other observations. Hair et al. (2010) further explained that a unique characteristic refers to an unusually high or low value on a variable or a unique combination of values of several variables that make an observation stand out from the others. Hair et al. (2010) classified outliers into four possible groups: 1) outliers that occur due to a procedural error such as a data entry error or a mistake in coding; 2) outliers that result from an extraordinary event which considers the uniqueness of the observation. In such a case, the researcher must determine whether the extraordinary event fits the objective of the research; if yes, the outliers should be retained, and not, they should not; 3) outliers that result from extraordinary observations that cannot be explained by the researcher; 4) outliers that consist of observations that fall within the ordinary range of values on each of the variables. In such a case, unless specific evidence is available, the researcher should retain the outliers.

In this research, a frequency test was first conducted to determine the distribution of participants answering the survey questionnaires. The data assessed were all 24 variables under the classification of five latent variables: leadership involvement (li), strategy translation (st), strategy alignment (sa), strategy as everyone's everyday job (sj) and strategy as a continuous process (sp). In examining the results, it was determined that any 'unidentified number' (a number not conforming to a 7-point Likert scale) appearing in the survey questionnaire would be treated as an outlier). From all 24 variables, one outlier appeared in Item li4. Table 6.11 provides information about the distribution of complete answers to Item li4. Referring to Hair and colleagues' (2010) classifications, this outlier might have appeared due to a procedural error such as data entry error or a mistake in coding.

Table 6.12 Frequency of Item li4

li4	Frequency	Percentage	Cumulative
1	3	0.18	0.18

2	13	0.78	0.96
3	28	1.68	2.64
4	96	5.77	8.41
5	238	14.29	22.7
6	902	54.17	76.88
7	384	23.06	99.94
8	**1**		100

As can be seen in Table 6.12, there is one answer (number 8) that is not part of a 7-point Likert scale. Having found the outlier, the next step to be performed was to locate the position of the outlier (case number). Nick Cox's extremes command using the STATA program was conducted to identify which case contained the score 8.

Table 6.13 Extreme values of Item li4

Case	Scale
438	1
750	1
1425	1
414	2
532	2
1671	7
1673	7
1674	7
1675	7
54	**8**

Table 6.13 shows that the value 8 appears in observation data number 54. Case number 54 was thus deleted to avoid any bias in the subsequent analysis process. The final total number of samples for the subsequent analysis is therefore 1,674.

6.7.4 Analysis of data distribution normality

After completing the analysis of outliers, the researcher proceeded by conducting a normality test of data distribution. As in the test of outliers, the data tested were all 24 variables under the classification of five latent variables: leadership involvement (li), strategy translation (st), strategy alignment (sa), strategy as everyone's everyday job (sj) and strategy as a continuous process (sp).

The normality of observed variables is analysed with either a statistical or a graphical approach (Tabachnik and Fidel 2007). Hair et al. (2010) mentioned that the shape of any data distribution can be examined by means of two statistical parameters: kurtosis and skewness. Furthermore, Hair et al. (2010) explained that kurtosis refers to the 'peakedness or flatness of the distribution compared with the normal distribution'; skewness describes the balance of data distribution. If the data distribution is unbalanced, then it is called skewed. A positive skew means that data distribution shifts to the left and, a negative skew means that data distribution shifts to the right. Furthermore, Hair et al. (2010) explained that values above or below zero denote departures from normality, with negative kurtosis values indicating flatter distribution and positive values representing peaked distribution. Similarly, positive skewness values indicate that the data distribution shifts to the left, while negative skewness values denote a rightward shift.

In order to observe the normality of the variables, this research applied Doornik-Hansen omnibus, Shapiro-Wilk and kurtosis and skewness methods using STATA 14 statistic software. If the test is non-significant ($\rho > 0.05$), it means that the data distribution does not significantly differ from a normal distribution, or that the data distribution is normal. However, if the test is significant where $\rho < 0.05$, it indicates that the data distribution significantly differs from a normal distribution, or that the data does not meet the condition of normal distribution.

The Doornik-Hansen test showed p-values of less than 0.05, indicating significance. As for the Shapiro-Wilk method, the normality assessment test results as shown in Appendix 6 showed p-values of less than 0.05 for all observed variables. The last test performed, using the kurtosis and skewness methods, showed p-values in all observed variables excluding st2 and st4 to be less than 0.05 (Appendix 7).

In sum, the three normality measurements used (Doornik-Hansen omnibus, Shapiro-Wilk and kurtosis and skewness) showed p-values of less than 0.05 in all observed variables excluding st2 and st4 (according to the kurtosis and skewness test). This means that the data deviate from normality and thus indicates that the data distributions are not normal. Non-normality occurs frequently in large samples; Hair et al. (2010, p. 72) noted that in most instances with large sample sizes, the researcher can be less concerned about non-normal variables. A similar view was espoused by Tabachnik and Fidel (2007, p. 80): 'In a large sample, a variable with statistically significant skewness often does not deviate enough from normality to make a substantive difference in analysis and the impact of departure from zero kurtosis also diminishes'.

6.8 Data analysis

Hair et al. (2010) define confirmatory factor analysis (CFA) as a way of testing how well measured variables represent a small number of constructs. The authors explained that CFA is used to provide a confirmatory test of measurement theory which specifies a series of relationships. These relationships suggest how measured variables represent a latent construct that is not measured directly. Brown (2015) stated that CFA is an essential technique for construct validation in the social and behavioural sciences because CFA can produce 'compelling evidence of the convergent and discriminant validity of theoretical constructs'. Furthermore, Brown (2015, p. 2) emphasised that the fundamental strength of CFA in construct validation is that the resulting estimates of convergent and

discriminant validity are adjusted for measurement error and an error theory. As such, CFA provides a stronger diagnostic framework than traditional techniques. This research follows the steps of CFA as prescribed by Hair et al. (2010). The steps are as follows: defining an individual construct, developing the overall measurement model, designing a study to generate empirical results, and assessing measurement model validity.

The variables of the first section adopt the five SFO principles: strategy translation, strategy alignment, strategy as everyone's everyday job, strategy as a continuous process and leadership involvement (Kaplan and Norton 2001c). In this section of the chapter, the focus is twofold. The first aim was to validate the construct of SFO principles to determine whether the model as proposed by Kaplan and Norton (2001c) holds in this research. The researcher applied the SFO principles as latent variables. Each of the latent variables is a composite of several of the total of 24 items. The distribution of the variables within each of the latent variables is as follows: leadership involvement with 6 items, strategy translation with 4 items, strategy alignment with 3 items, strategy as everyone's everyday job with 7 items, and strategy as a continuous process with 4 items. Figure 6.2 presents the BSC implementation model used as a base model in a later stage of the analysis.

The CFA assessment of the measurement model was applied by using STATA 14 and performing maximum likelihood (ML) estimation following Bartholomew et al. (2011, p. 29). The model resulting from this test was then used for the further examination of the associations between the BSC and organisational factors and between the BSC and strategic employees' roles (in Section 6.8.7.3); in addition, it was used to examine the impact of adopting the BSC on organisational commitment and PSM (Chapter 7).

Figure 6.2 Initial model of BSC implementation
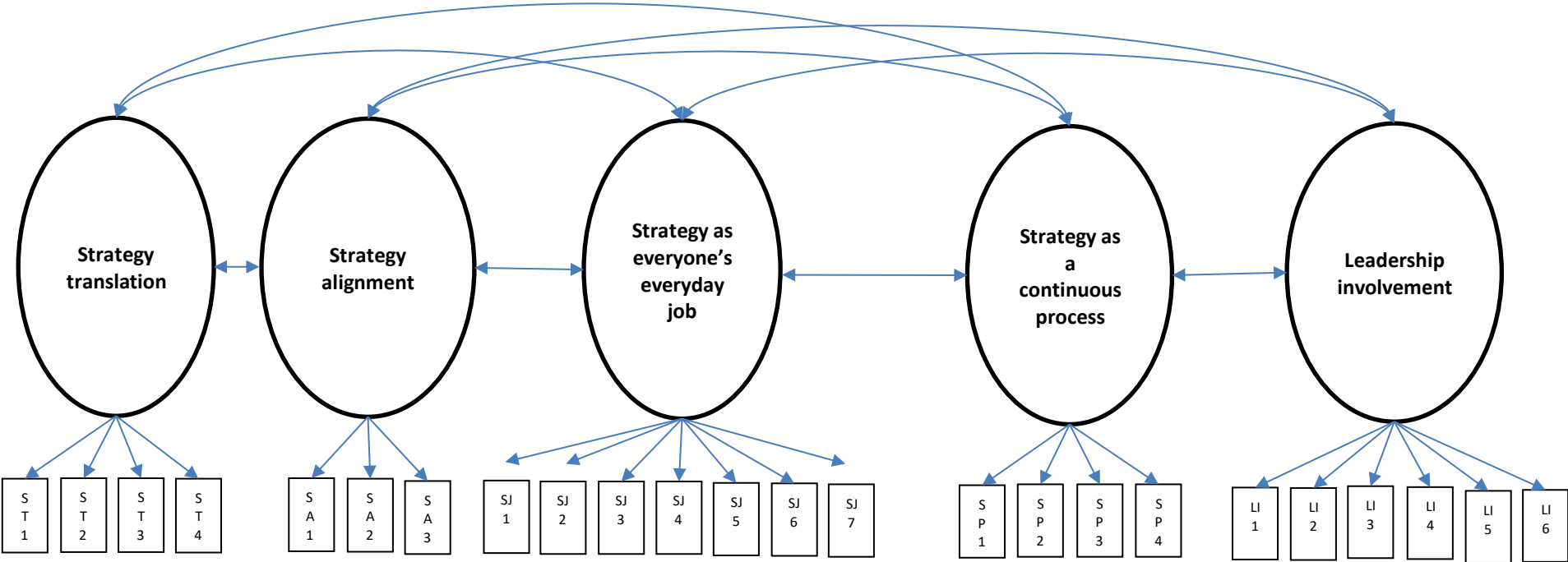
6.8.1 Assessment of measurement model validity

The subsequent stage examined the measurement theory by comparing the theoretical measurement model against the data provided by the sample (Hair et al., 2010). Hair et al. (2010, p. 664) suggested that measurement validity depends on two things: firstly, the achievement of acceptable levels of goodness of fit for the measurement model, and secondly, the adequacy of the evidence of construct validity. In order to examine the validity of the measurement model, assessments of both reliability and construct validity were conducted.

With regard to the goodness of fit, Hair et al. (2010) offered three classifications—absolute fit indices, incremental fit indices and parsimony fit indices—to assist in evaluating measurement models. Absolute fit indices provide the most basic assessment of how well the model tested fits the sample data. Two widely used measures of absolute fit indices are the root mean square of error of approximation (RMSEA) and standardized root mean residual (SRMR). According to Hooper et al. (2008), the cut-off point for RMSEA has been significantly minimised; until the early 1990s, a range of 0.5 to 0.10 was considered a fair fit and values above 0.10 indicated that a model was a poor fit. It was then assumed that values between 0.8 and 0.10 indicated a mediocre fit, with a value below 0.8 denoting a good fit. However, Hu and Bentler (1999, cited in Hooper et al. 2008) stated that the RMSEA cut-off value should be close to 0.6, while Steiger (2007) posited that a value of up to 0.7 could render a model a good fit. SRMR, on the other hand, is useful for comparing fit across models (Hair et al. 2010, p. 667). According to Hu and Bentler (1999), the cut-off value for SRMR should be close to 0.08.

Incremental fit indices aim at examining the extent to which the estimated model fits relative to an alternative baseline. The two most widely reported measures are the Tucker-Lewis index (TLI) and the comparative fit index (CFI) (Hair et al. 2010, p. 670). A model is considered a good fit when the TLI value approaches 1; a model

with a higher value represents a better fit than a model with a lower value. Meanwhile, the CFI value represents a good fit when it is above 0.90 (Hair et al. 2010, p. 669). According to Hooper et al. (2008), CFI is one of the most popularly reported fit indices because it is among the measurements least affected by sample size (Fan et al. 1999).

The last of the three classifications according to Hair et al. (2010, p. 669) contains parsimony fit indices, among which the parsimony normed fit index (PNFI) is the most widely applied measure. Concerning the selection of fit indices, Hooper et al. (2008), stated that it is not necessary to include all fit indices. At the same time, it is not wise to choose the fit indices that best fit the model without reasonable grounds. Hooper et al. (2008) also emphasised that choosing fit indices based on their frequency of use is not necessarily a sound method as some of the statistics are often relied on purely for historical reasons rather than for their sophistication. Therefore, based on the suggestions of Hu and Bentler (1999), this research reports RMSEA, CLI, TLI and SRMR values.

The following section presents an analysis of reliability using Cronbach's alpha followed by an analysis of the construct validity covering convergent, discriminant and nomological validity assessments. Subsequently, an analysis of goodness of fit for measurement models presents an assessment of the BSC implementation model using confirmatory analysis. Lastly, an assessment of BSC implementation in relation to organisational size and strategic employees' roles using SEM is presented.

6.8.2   Assessment of model reliability

According to Sekaran and Bougie (2016, p. 223), the reliability of a measure represents the stability and consistency with which an instrument measures the concept and helps to assess the goodness of a measure. Cronbach's alpha is widely considered as an 'internal consistency' coefficient. It is the most frequently used

reliability coefficient in organisational research (Cho and Kim 2015). Thus, for assessing the reliability of the variables, this research applied Cronbach's alpha. Table 6.14 provides information regarding Cronbach's α in each latent variable.

Table 6.14 Reliability test for five latent variables

Latent Variable	Survey Questionnaire Items	Cronbach's Alpha
Strategy translation	21-24	0.83
Strategy alignment	25-27	0.81
Strategy as everyone's everyday job	28-34	0.86
Strategy as a continuous process	35-38	0.83
Leadership involvement	15-20	0.87

The computation of Cronbach's alpha for all latent variables resulted in a coefficient range of 0.81 to 0.87, which is a range considered reliable for reliability and internal consistency (Hair et al. 2006, p. 127).

6.8.3   Assessment of construct validity

Definitions of validity vary amongst researchers; three definitions are presented here. Hair et al. (2010) defined validity as how well a scale or a set of measures accurately represents the concept. Sekaran and Bougie (2016, p. 220) explained validity as the ability of an instrument scale to measure a concept (asking the question 'Are we measuring the right thing?'). Zikmund et al. (2009) referred to validity as the accuracy of measurement to generate an actual score to represent a concept. In addition to differences in the definition of validity, there exists a wide variety of validity typology. Nunnally and Bernstein (1994, p. 83) stated that validity can be grouped into three components: construct validity, predictive validity and content validity. According to Sekaran and Bougie (2016, pp. 220-221), validity may be clustered into content validity, criterion-related validity and construct validity. Content validity is a function of how well the concepts and components of a concept have been explained. Criterion-related validity is divided

into concurrent validity (established when the scale discriminates individuals who are known to be different) and predictive validity (the ability to determine a component to differentiate among individuals with reference to a future criterion). Construct validity refers to how well the results obtained from the use of the measure fit the theories around which the theory is tested. Moreover, Sekaran and Bougie (2016, p. 220) suggested assessing construct validity by using convergent validity (the scores are highly correlated when measuring two different instruments). Discriminant validity occurs when, based on theory, two variables are predicted to be uncorrelated and the scores obtained by measuring them are empirically found to be so. However, Hair et al. (2010, p. 126) suggested that the three most accepted forms of validity are convergent, discriminant and nomological validity. This research follows the classification of validity suggested by Hair et al. (2010), measuring validity in the forms of convergent, discriminant and nomological validity. Thus, the following sections provide the analytical results of those three validity measurements.

6.8.4 Assessment of convergent validity

According to Bartholomew et al. (2002), factor loading is the correlation between the observed variables and a latent variable. If high convergent validity occurs, high loadings in a factor would indicate that they converge on a common point, the latent construct (Hair et al. 2010). Table 6.15 provides complete information regarding factor loading of all observed variables.

Table 6.15 Factor analysis of the variables (rotated factor loading)

Latent Construct	Code	Observed Variable	Factor
Strategy translation	st1	Our organisation's strategy map helps me to better understand our organisation's strategic objectives	0.61
	st2	I know all about our organisation's key performance indicators	0.90
	st3	I know all about our organisation's key performance indicator targets	0.92
	st4	My KPIs relate to the organisation's strategic objectives	0.54
Strategy alignment	sa1	The organisational KPIs are cascaded proportionately	0.75
	sa2	The organisational KPI targets are cascaded proportionately	0.82
	sa3	My KPIs are aligned with those of other colleagues at the same level	0.64
	sj1	My KPIs are in line with organisational KPIs	0.68
	sj2	I have good quality KPIs	0.76
	sj3	My KPI targets are realistic	0.71
	sj4	My KPI targets support the accomplishment of organisational targets	0.69
	sj5	There is active dialogue with my direct supervisor when determining my KPIs	0.73
	sj6	There is active dialogue with my direct supervisor when determining my KPI targets	0.69
	sj7	The rewards system is linked to KPI target achievement	0.52
	sp1	My competence development is aligned with organisational strategy	0.68
	sp2	BSC management is supported with sound information technology	0.79
	sp3	I find the performance reporting procedure easily understandable	0.78
	sp4	Performance reporting requires solid proof	0.65
Leadership involvement	li1	The head of the organisation educates me about performance management based on the BSC	0.71
	li2	The head of the organisation provides sufficient information regarding the organisation's strategies and goals	0.76
	li3	I know all about our organisation's objectives	0.71
	li4	The head of the organisation motivates me to accomplish my targets	0.80
	li5	My direct supervisor actively guides me to reach my performance goals	0.69
	li6	My direct supervisor monitors my performance through my KPIs	0.68

Table 6.16 shows that all loading factors are above 0.4, indicating that they are good factors for the purposes of CFA (Hair et al. 2014, p. 136). Given these results, all items were retained at this stage and adequate evidence of validity convergence for the BSC CFA model was considered to have been provided.

6.8.5 Assessment of discriminant validity

According to Hair et al. (2010), discriminant validity is the extent to which a latent variable differs from other latent variables. In this research, discriminant validity was examined by comparing the average variance extracted (AVE) estimates for each factor with the squared inter-construct correlations associated with that factor. The rule is that there are no problems with discriminant validity when AVE estimates are greater than the corresponding inter-construct squared correlation estimates (Hair et al. 2010, p. 723). The first step was to calculate the AVE using the following formula:

$$\text{AVE} = \sum_{i=1}^{n} Li^2$$

Where *Li* represents the standardised factor loading and *i* is the number of items. An AVE should be calculated for all latent variables (Hair et al. 2006, p. 709).

Table 6.16 BSC standardised factor loadings, average variance extracted and AVE estimates

Variable	ST	SA	SJ	SP	LI
My key performance indicators are aligned with those of other colleagues at the same level	0.61				
My key performance indicators are in line with the organisational key performance indicators	0.90				
I have good quality key performance indicators	0.92				
My key performance indicator targets are realistic	0.54				
My key performance indicator targets support the accomplishment of organisational targets		0.75			
There is active dialogue with my direct supervisor when determining my KPIs		0.82			
There is active dialogue with my direct supervisor when determining my KPI targets		0.64			
The rewards system is linked to KPI target achievement			0.68		
My competence development is aligned with organisational strategy			0.76		
BSC management is supported with sound information technology			0.71		
I find the performance reporting procedure easily understandable			0.69		
Performance reporting requires solid proof			0.73		
The head of the organisation educates me about performance management based on BSC			0.69		
The head of the organisation provides sufficient information regarding the organisation's strategies and goals			0.52		
I know all about our organisation's objectives				0.68	
The head of the organisation motivates me to accomplish my targets				0.79	
My direct supervisor actively guides me to reach my performance goals				0.78	

My direct supervisor monitors my performance through my key performance indicators				0.65	
Our organisation's strategy map helps me to better understand our organisation's strategic objectives					0.71
I know all about our organisation's KPIs					0.76
I know all about our organisation's KPI targets					0.71
My key performance indicators relate to the organisation's strategic objectives					0.80
The organisational KPIs are cascaded proportionately					0.69
The organisational KPI targets are cascaded proportionately					0.68
Average variance extracted (AVE)	58%	54.8%	47.13%	52.9%	52.7%

The (AVE) estimates illustrated in Table 6.16 are greater than the corresponding inter-construct squared correlation estimates as shown in Table 6.17. Hence, there is no problem with discriminant validity for the BSC implementation model for this research.

Table 6.17 Construct correlation matrix (standardised)

	st	sa	sj	sp	li
Strategy translation	1	0.08	0.09	0.14	0.18
Strategy alignment	0.28‡	1	0.07	0.07	0.08
Strategy as everyone's everyday job	0.30‡	0.26‡	1	0.10	0.1
Strategy as a continuous process	0.38‡	0.27‡	0.32‡	1	0.18
Leadership involvement	0.43‡	0.29‡	0.31‡	0.42‡	1

Significance levels: * = 10% or less; † = 5% or less; ‡ = 1% or less.

Note: item values below the diagonal are correlation estimates among constructs, diagonal elements are constructed variances, and values above the diagonal are squared correlations.

6.8.6 Assessment of nomological validity

According to Hair et al. (2010, p. 710), normal validity is assessed by investigating whether the associations among latent variables in a measurement theory make sense. The associations among the factor scores of each latent variable in this study are as shown in Table 6.17. The results show that all five latent variables are positively and significantly related to one another. Thus, this result supports the nomological validity of the BSC implementation model used in this research.

6.8.7 Assessment of model fit indices

With regard to the assessment of model fit indices, the analysis presented in this section in divided into two parts. The first part assesses BSC implementation, which confirms the structure of the SFO model as its latent construct. In this first part, CFA was applied. The second part of the analysis undertaken here is the assessment process, which utilised the BSC model resulting from the CFA in the first part to correlate with organisational size and strategic employees' roles.

6.8.7.1 Confirmatory factor analysis results

The initial results revealed a total number of observations of 1,605 (with 69 missing data excluded from the analysis during the process). The RMSEA value was reported to be at 0.107, which was above the cut-off of 0.07 (Steiger 2007). The CFI value was determined to be 0.820, the TLI value was 0.794 and the SRMR value was 0.094. Overall, the goodness of fit statistics value results were above the standard thresholds. This indicates that the model could benefit from modification (Hooper et al. 2008). The researcher thus proceeded with modification indices to improve the best-fit model values.

6.8.7.2 Modification indices process

Following Hooper et al. (2008), the researcher performed several error term correlations; these were chosen by considering the highest modification index values together with the logical reasoning of the correlation. Having considered these factors, twelve error term correlations were created. The first step in doing so was to create error correlation pairs between observed variables within a single latent variable. This part of the process involved five correlated pairs. The first error term correlation items were knowledge about organisational KPIs (st2) and knowledge about organisational KPI targets (st3). Both of these variables are within the same latent variable of strategy translation. The two variables correlate with each other in the sense that they express different dimensions of the same object, where st2 concerns the name of the measurement indicator and st3

concerns the target of the measurement indicator. The second error term correlation items were direct supervisor guidance in achieving my performance goals (li5) and direct supervisor monitoring of my performance (li6). These observed variables are within the same latent factor of leadership involvement. They measure the subordinate's perspective of the direct supervisor's role to encourage and support the performance of subordinates under their supervision. Hence, the relationship lies in the fact that the direct supervisor not only monitors but also guides the employees' performance. The third error term correlation items were active dialogue with a direct supervisor when setting up personal KPIs (sj5) and active dialogue with a direct supervisor when setting up personal KPI targets (sj6). These two observed variables are within the same latent factor, strategy as everyone's everyday job. The two variables are correlated with one other in that they both refer to dialogue regarding performance with the direct supervisor; Item sj5 concerns the setting up of KPIs, while Item sj6 concerns the determining of KPI targets. Hence, the combining of these two variables to characterise not only supervisors' interest in good performance measures but also their level of concern regarding the target for the performance measures. The fourth pair of error term correlation items includes KPI quality (sj2) and realistic KPI targets (sj3). These observed variables are both within the same latent factor of strategy as everyone's everyday job. The two variables are correlated in the sense that they both express characteristics of performance measures, where sj2 concerns the quality of individual KPIs and sj3 concerns individual KPI targets. The fifth error term correlation is between alignment of individual and organisational KPIs (sj1) and individual KPI targets as supporting the accomplishment of organisational targets (sj4). These two observed variables are both within the same latent factor, strategy as everyone's everyday job. They were both intended to measure whether personal KPIs support the organisation, both in terms of the use of performance measurements and KPIs' relationship with organisational targets. The combining of these two observed variables indicate the extent to

which individual KPIs and their targets are in line with organisational KPIs and their targets.

The second part of error term correlation in this research consisted of seven correlations involving observed variables represented by different latent variables. The occurrence of such error term correlations is likely in the presence of covariance amongst all five latent variables (SFO variables) under the framework of the BSC. The sixth error correlation term concerned active dialogue with a direct supervisor when setting up individual KPIs (sj5) direct supervisor guidance for achieving individual performance goals (li5). The correlation of these two observed variables was based on the fact that they both have the same object (individual KPIs) with different emphases on the role of the direct supervisor: at the beginning (when setting up KPIs) and during the process of accomplishing KPI targets. The seventh error correlation term paired personal KPIs as supporting organisational strategic objectives (st4) with personal KPIs as supporting organisational targets (sj4). These two observed variables were paired based on the consideration that both are concerned with the same dimension, namely, individual KPIs as supportive of organisational KPIs. The eighth error term correlation was between active dialogue with a direct supervisor when setting up individual KPI targets (sj6) and direct supervisor guidance in achieving individual performance goals (li5). Though the two items are represented by different latent variables, they portray similar dimensions of the direct supervisor role in terms of employee performance. The ninth error term correlation concerned the linkage of the reward system to KPI target achievement (sj7) and the alignment of employee competence development with organisational strategy (sp1). Both observed variables express the dimension of BSC usage as related to the organisational rewards system and personal competence development, respectively. The tenth error term correlation combined the items regarding the link between individual KPIs and organisational strategic objectives (st4) and the alignment of individual KPIs with organisational KPIs (sj1). Both observed variables mention the same

dimension of measurement (individual KPIs) to organisational goals, thus demonstrating the extent of individual KPI support of organisational KPIs. The eleventh error correlation term pair, the alignment of individual KPIs with those of colleagues at the same level (sa3) and the alignment of individual KPIs with organisational key performance indicators (sj1), were linked because all employees' individual KPIs are presumed both to align with other colleagues' at the same level and to support organisational KPIs. The twelfth correlation error term linked active dialogue with a direct supervisor when setting up personal KPIs (sj5) and direct supervisor monitoring of performance (li6). The justification for correlating these two observed variables was that both variables express the same issue: the direct supervisor's role in setting up individual KPIs and monitoring subordinate performance using those KPIs.

Finally, the results from the CFA showed a good fit, particularly given the RMSEA of 0.069, CFI of 0.930, TLI of 0.915 and SRMR of 0.055, all of which are under the standard threshold (Hu and Bentler 1999; Steiger 2007; Hair et al. 2010, p. 667). The SFO principles model was then used in further analysis examining the associations with organisational factors, organisational commitment and PSM.

Table 6.18 Comparison of initial and modified models

Fit indices	Initial model	Modified model	Cut-off value	Reference
RMSEA	0.107	0.069	0.07	Hair et al. 2010, p. 667; Steiger 2007
CFI	0.820	0.930	≥ 0.90	Hu and Bentler 1999
TLI	0.794	0.915	≥ 0.90	Hu and Bentler 1999
SRMR	0.094	0.055	≤0.08	Iacobucci 2010; Hooper et al. 2008; Hu and Bentler 1999

Note: Coefficients are statistically significant at $\rho < 0.01$

As can be seen in Tables 6.18 and 6.19, the root mean squared error of approximation (RMSEA) is reported at 0.069; hence it represents a good fit (Steiger 2007; Hair et al. 2010, p. 667). For the standardised root mean squared residual

(SRMR), the results show the figure 0.055, which is under the maximum (0.08) suggested by Hu and Bentler (1999), Hooper et al. (2008) and Iacobucci (2010). The CFI value index was 0.930 and the TLI value was 0.915. According to Hair et al. (2010, p. 669), a cut-off criterion of ≥ 0.90 in both CFI and TLI indicates that the model is a good fit. Thus, according to the fit index results, the modified model of BSC implementation shows a good fit. Table 6.19 provides comprehensive results of the measurement model estimates and the fit statistics of the BSC implementation model. The final results of CFA model are provided in Appendix 8.

Table 6.19 CFA measurement model and fit statistics of BSC implementation

Measurement model estimates	
Strategy translation -> st1	0.77(0.12) ‡
Strategy translation -> st2	0.68(0.02) ‡
Strategy translation -> st3	0.70(0.02) ‡
Strategy translation -> st4	0.62(0.02) ‡
Strategy alignment -> sa1	0.79(0.01) ‡
Strategy alignment -> sa2	0.86(0.01) ‡
Strategy alignment -> sa3	0.69(0.01) ‡
Strategy as job -> sj1	0.67(0.01) ‡
Strategy as job -> sj2	0.73(0.01) ‡
Strategy as job -> sj3	0.65(0.02) ‡
Strategy as job -> sj4	0.67(0.02) ‡
Strategy as job -> sj5	0.64(0.02) ‡
Strategy as job -> sj6	0.62(0.02) ‡
Strategy as job -> sj7	0.58(0.02) ‡
Strategy process -> sp1	0.73(0.01) ‡
Strategy process -> sp2	0.78(0.01) ‡
Strategy process -> sp3	0.78(0.01) ‡
Strategy process -> sp4	0.68(0.01) ‡
Leadership involvement -> li1	0.75(0.01) ‡
Leadership involvement -> li2	0.78(0.01) ‡
Leadership involvement -> li3	0.77(0.12) ‡
Leadership involvement -> li4	0.81(0.01) ‡
Leadership involvement -> li5	0.58(0.02) ‡
Leadership involvement -> li6	0.58(0.02) ‡
Fit statistics	
Root mean squared error of approximation (RMSEA)	0.069
CFI (CFI)	0.930
Tucker – Lewis Index (TLI)	0.915
Standardised root mean squared residual (SRMR)	0.055

Note: Reported are standardised coefficients (standard errors). Sig.: * = 10% or less; † = 5% or less; ‡ = 1% or less.

The findings provided in Table 6.19 are further discussed in Chapter 9. The final BSC model resulting from the CFA was used in the subsequent analysis, which

examined the association of BSC implementation with organisational size and strategic employee roles by means of SEM.

6.8.7.3 Structural equation modelling

Having finished examining the BSC implementation of SFO principles with confirmatory factor analysis, the researcher then applied the final model to examine the association of BSC implementation in organisations of different sizes and with regard to strategic employees' roles. In this analysis, the researcher applied SEM using STATA 14 statistical software. Ullman (2001, cited in Schreiber et al. 2006) stated that SEM has been defined as a combination of exploratory factor analysis and multiple regression. SEM is often used in behavioural science analysis when latent variables or theoretical constructs are the focus (Hox and Bechger 1998). Hair et al. (2010, p. 635) explained that SEM is distinguished by three characteristics: Firstly, estimating multiple and interrelated relationships; secondly, an ability to represent unobserved concepts in these relationships and account for measurement error in the estimation process; and thirdly, defining a model to explain the entire set of relationships. Hair et al. (2010) also mentioned that latent constructs (representing a group of observed variables) can be introduced into SEM analysis. According to McDonald and Ho (2002), SEM consists of two main parts: the measurement model represents a set of observable variables p as multiple indicators of a small set of latent variables m, which are usually common factors. The path model describes relations of dependency usually accepted to be in some sense causal between the latent variables.

In this research, there are twelve respondent organisations involved; three organisations are classified as large organisations and the remainder as small. As presented in Table 6.2 above, the large organisations involved in this research are the Main Service Offices (MSOs) of Tg. Priok, Batam and Soetta. The small organisations comprise the Indonesian CEOs of Marunda, Jakarta, Merak, Tangerang, Bogor, Bekasi, Cikarang, Purwakarta, and Bandung. In the analysis process, two binary variables were introduced: organisation size and employees'

roles. The first relationship investigated was the way in which BSC implementation differs between employees in large and small organisations. Moreover, this research is intended to examine whether an organisation's size has any influence over the implementation of the BSC. For organisation size, employees working in large organisations are represented by '1', while employees working in small organisations are represented by '0'. The second relationship that this research examined was the association between the implementation of BSC by employees with different roles. For the purpose of the research, employees were grouped into two clusters: employees who hold strategic roles and all remaining employees who do not hold strategic roles.

Employees in strategic roles are those who work one level under the head of the organisation. The researcher identified employees in strategic roles with the number 1, and all remaining employees, excluding organisation heads, with the number 0. The term 'BSC implementation' refers to five latent variables: st (strategy translation) and sa (strategy alignment), st (strategy translation) and sj (strategy as everyone's everyday job), st (strategy translation) and strategy as a continuous process (sp), st (strategy translation) and leadership involvement (li). Figure 6.3 illustrates the initial model of BSC implementation in association with organisational size and employee roles.

Figure 6.3 BSC implementation, organisation size and employee roles
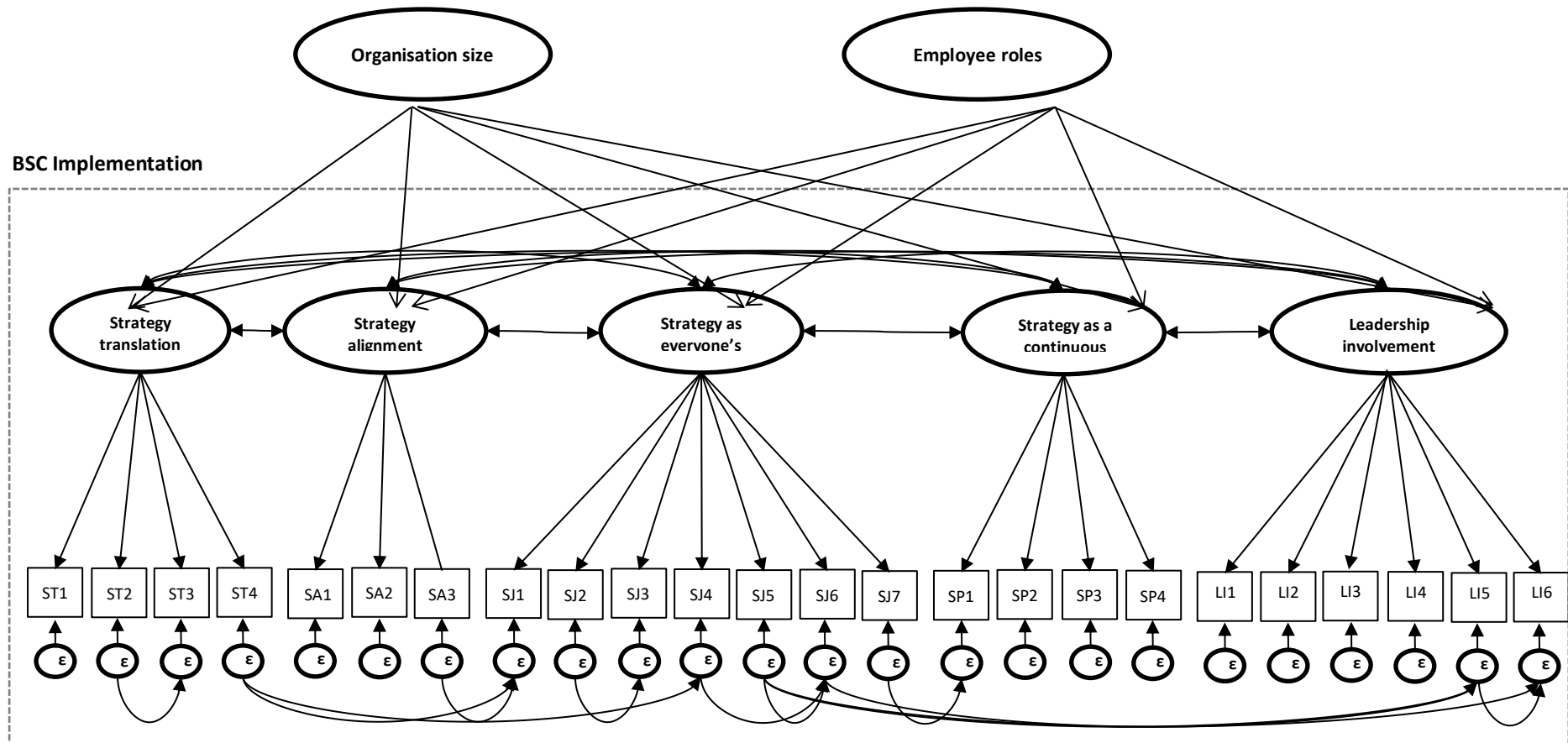
6.8.7.4 SEM results

The SEM analysis process resulted in fit indices as follows: RMSEA of 0.119, CFI value index of 0.747, TLI value of 0.705, and SRMR of 0.312. All of these indicated poor model fit. With regards to organisation size, it is reported that organisation size had a significant and negative association with all five latent variables of the BSC implementation. Below is a summary association of the two latent variables with organisation size:

- Employees working in large organisations were likely to report lower levels of strategy translation (β =-0.25 at ρ <0.01);

- Employees working in large organisations were likely to report lower levels of strategy alignment (β =-0.19 at ρ <0.01);

- Employees working in large organisations were likely to report lower levels of strategy as everyone's everyday job (β =-0.21 at ρ <0.01);

- Employees working in large organisations were likely to report lower levels of strategy as a continuous process (β =-0.24 at ρ <0.01);

- Employees working in large organisations were likely to report lower levels of leadership involvement (β =-0.16 at ρ <0.01).

The results from the employees with strategic roles showed a statistically significant association of almost all latent variables with BSC implementation. The one variable with no statically significant association with BSC implementation was strategy as a continuous process (β =-0.02 at ρ >0.1). Below is a summary of the results of the other four latent variables:

- Employees working in strategic positions were likely to report higher levels of strategy translation (β= 0.19 at ρ <0.01);

- Employees working in strategic positions were likely to report higher levels of strategy alignment (β= 0.10 at ρ <0.01);

- Employees working in strategic positions were likely to report higher levels of strategy as everyone's everyday job (β= 0.11 at ρ <0.01);

- Employees working in strategic positions were likely to report higher levels of leadership involvement (β= 0.10 at ρ <0.01).

These results regarding BSC implementation and its associations with organisation size and strategic employees' roles are further discussed in Chapter 9. **Appendix 9** contains more information on the associations of BSC with organisation size and strategic employees' roles.

6.9   Hypothesis testing

This section provides the associations between this chapter's findings, the hypotheses proposed, and the analysis techniques used. There are two main analyses in this chapter. The first analysis examined the proposed model of SFO principles that must exist in an organisation in order to successfully implement BSC. In this analysis phase, five latent variables of SFO principles (Kaplan and Norton 2001) were used. The five latent constructs together with the number of observed variables in each are: strategy translation (made up of four observed variables), strategy alignment (made up of three observed variables), strategy as everyone's everyday job (made up of seven observed variables), strategy as a continuous process (made up of four observed variables) and leadership involvement (made up of six observed variables). In CFA testing, these latent variables were the exogenous variables while the observed variables served as endogenous variables.

Hypothesis H1 predicted that SFO principles would correlate positively with each other within implementation of the BSC. The results showed the covariance among all latent variables to be positive and significant with the following results: strategy translation and strategy alignment (β= 0.80), strategy translation and strategy as everyone's everyday job (β= 0.87), strategy translation and strategy as a continuous process (β= 0.84), strategy translation and leadership involvement

(β= 0.89), strategy alignment and strategy as everyone's everyday job (β= 0.86), strategy alignment and strategy as a continuous process (β= 0.68), strategy alignment and leadership involvement (β= 0.67), strategy as everyone's everyday job and strategy as a continuous process (β= 0.82), strategy as everyone's everyday job and leadership involvement (β= 0.76) and strategy as a continuous process and leadership involvement (β= 0.77), with all significant at ρ <0.01. Thus, **Hypothesis H1** (SFO principles correlate positively with each other within the implementation of the BSC) **is supported**.

Hypothesis H2 estimated that a large organisation has more influence on the implementation of BSC than a small organisation. The results showed the large organisations to have a negative association with all five SFO principles. Thus, **Hypothesis H2 is not supported**. Hypothesis 3 predicted that employees with strategic roles would have a significant and positive relationship with BSC implementation as represented by SFO principles. The results showed employees with strategic roles to have a significant association with four of the five latent variables representing BSC implementation. Strategy as a continuous process was the only variable that did not show a significant association with employees holding strategic roles. Therefore, **Hypothesis H3 is partly supported**. Table 6.20 summarises the findings of this chapter regarding the hypotheses under consideration.

Table 6.20 Hypothesis testing results

Research questions	Hypothesis	Results
RQ1. How do SFO principles relate to each other within implementation of the BSC?	**H1**. SFO principles correlate positively with each other within the implementation of the BSC.	**Supported.** All latent variables showed significant relationships at ρ <0.01 as follows: - β= 0.80 for strategy translation and strategy alignment, - β= 0.87 for strategy translation and strategy as everyday job, - β= 0.84 for strategy translation and strategy as a continuous process, - β= 0.88 for strategy translation and leadership involvement, - β= 0.86 for strategy alignment and strategy as everyday job, - β= 0.68 for strategy alignment and strategy as a continuous process, - β= 0.67 for strategy alignment and leadership involvement, - β= 0.82 for strategy as everyday job and strategy as a continuous process, - β= 0.76 for strategy as everyday job and leadership involvement, and - β= 0.77 strategy as a continuous process and leadership involvement.
RQ2. To what extent are organisational factors associated with the implementation of the BSC?	**H2**. The large organisation has more influence on the implementation of the BSC than the small organisation. H2a.The level of BSC strategy translation is higher for employees working in large organisations than for employees working in small organisations; H2b.The level of BSC strategy alignment is higher for employees working in large organisations than for employees working in small organisations; H2c.The level of the strategy everyone's everyday job through in large organisation is higher than that of small organisation;	- **Not supported**. Large organisation size has a significant and negative relationship with strategy translation (β= -0.25 at ρ <0.01). - **Not supported**. Large organisation size has a significant and negative relationship with the strategy alignment (β= -0.19 at ρ <0.01).

	H2d.The level of the strategy as a continuous process through BSC in large organisation is higher than that of small organisation; H2e.The level of the leadership involvement through a BSC in the large organisation is higher than that of the small organisation..	- **Not supported**. Large organisation size has a significant and negative relationship with the strategy everyone's everybody job (β= -0.21 at ρ <0.01). - **Not supported**. Large organisation size has a significant and negative relationship with strategy as a continuous process (β= -0.24 at ρ <0.01). - **Not supported**. Large organisation size has a significant and negative relationship with leadership involvement (β= -0.16 at ρ <0.01).
	H3. Employees holding strategic roles have more influence on BSC implementation than other employees. H3a. The level of strategy translation through BSC of employees holding strategic roles is higher than the rest of employees; H3b. The level of strategy alignment through BSC of employees holding strategic roles is higher than the rest of employees; H3c. The level of the strategy everyone's everyday job through BSC of employees holding strategic roles is higher than the rest of employees; H3d. The level of the strategy as a continuous process through BSC of employees holding strategic roles is higher than the rest of employees; H3e. The level of the leadership involvement through a BSC of employees holding strategic roles is higher than the rest of employees.	- **Supported.** Strategy translation has a positive and significant relationship with strategic employees' roles (β= 0.19 at ρ <0.01). - **Supported.** Strategy alignment has a negative and significant relationship with strategic employees' roles (β= 0.10 at ρ <0.01). - **Not supported**. Strategy as everyone's everyday job is not significantly different among employees in strategic positions than among other employees (β= 0.11 at ρ >1). - **Supported**. Strategy as a continuous process has a significant and negative relationship with strategic employees' roles (β= 0.02 at ρ <0.01). - **Supported**. Leadership involvement has a significant and negative relationship with strategic employees' roles (β= 0.10 at ρ <0.01).

6.10 Chapter summary

This chapter has provided the empirical evidence of this study of the associations of organisation size and strategic employee roles with the BSC model. Before proceeding to data analysis, the data underwent a screening process including: sample adequacy analysis, missing data and treatment analysis, analysis of outliers, and testing for the normality of data distribution. Prior to CFA, the validity of the measurement model was tested for reliability and construct validity. The reliability test was conducted using Cronbach's alpha; the coefficient range from 0.81 to 0.86 indicated that the model was reliable for reliability and internal consistency (Netemeyer et al. 2003). Following Hair and colleagues' (2010) construct validity classification, this research applied convergent, discriminant and nomological validity testing. All three tests showed evidence of validity convergence, discriminant validity and nomological validity for the BSC CFA model, indicating the construct validity of the model.

The first goal of this study was to examine how SFO principles relate to each other within implementation of the BSC. In this examination, CFA using STATA statistics package version 14 was adopted. The second goal was to investigate BSC implementation's association with organisation size, and the third goal was to capture any difference in BSC implementation between employees with strategic roles and other employees. To reach the second and third goals, SEM was applied using maximum likelihood, as suggested by Iacobucci (2010). The total number of respondents processed in the analysis stage was 1,604, with 69 respondents missing and excluded from the calculation. During the analysis process, the fit index properties of the CFA results did not reach the minimum thresholds as suggested by Hu and Bentler (1999), Hooper et al. (2008) and Iacobucci (2010). After re-running the CFA model conducting error term correlations (see Hooper et al. 2008), the fit indices were improved. The RMSEA of 0.069 would be considered by Hooper et al. (2010) to be the maximum score indicating a good model fit (Steiger 2007). In terms of SRMR, the result of 0.055 was under the maximum

point (0.06) suggested by Hu and Bentler (1999), Hooper et al. (2008) and Iacobucci (2010). The CFI value index was 0.930 and the TLI value was 0.915. Hooper et al. (2008) initially advanced a cutoff criterion of ≥ 0.90 for CFI and TLI; however, recent studies have shown that a value greater than 0.90 for CFI and TLI is needed in order to ensure that mis-specified models are not accepted (Hu and Bentler 1999). Thus, according to the fit index results, the modified model appears to be good fit. Table 6.18 provides information on the modified model fit indices, showing the modified model to be an improved fit. Unlike the CFA results, the SEM results examining the effects of organisational size and employee roles indicated that the model was poor, with fit indices above the standard maximum. However, it is worth noting that organisation size showed a negative and significant relationship with the BSC, while strategic roles showed a positive relationship with BSC implementation in four of the five SFO principles. The next chapter discusses the findings as summarised in Table 6.20.

Chapter 7: Findings on the Association of BSC with Organisational Commitment and Public Service Motivation

7.1 Introduction

This chapter aims to explain the relationships between the implementation of BSC with organisational commitment (OC) and public service motivation (PSM). This chapter is a continuation of the previous chapter and utilises the BSC implementation construct that resulted from Chapter 6. The researcher adopted the final BSC implementation design (as confirmed using CFA) for determining its relationship with OC and PSM. This chapter also examines the influence of PSM on OC within organisations adopting BSC as their PMS.

The structure of this chapter is as follows: the chapter begins by providing descriptive statistics on OC and PSM from the perspective of organisation, employee role, working rank, employee age, education level, working tenure and gender, followed by data analysis. In the latter part of the chapter, the researcher presents the results of the study, responding specifically to three of the study's research questions:

RQ3. Do the SFO principles within the implementation of the BSC have a relationship with organisational commitment?

RQ4. Do the SFO principles within the implementation of the BSC have a relationship with public service motivation?

RQ5. How does public service motivation relate to organisational commitment within an organisation implementing the BSC?

The level of BSC implementation was measured using five SFO principles, namely strategy translation (st), strategy alignment (sa), strategy as everyone's everyday job (sj), strategy as a continuous process (sp) and leadership involvement (li). The

five SFO latent variables used in the proposed model for this chapter were analysed in Chapter 6.

7.2 Research questions, hypotheses and rationale construction

Table 7.1 provides the correlation between the research questions and hypotheses examined in this chapter. In this study, it is hypothesised that BSC implementation has a positive influence on OC and PSM. BSC implementation itself refers to the five latent variables (SFO principles) tested in Chapter 6. This study additionally hypothesises that PSM has a positive correlation with OC within public-sector organisations implementing the BSC.

Table 7.1 Research questions and hypotheses

Research questions	Hypothesis
RQ3. Do the SFO principles within the implementation of the BSC have a relationship with organisational commitment?	**H4**. The SFO principles within the implementation of the BSC are positively associated with organizational commitment. H4a. The better the strategy translation through BSC implementation, the more employees' organisational commitment will increase; H4b. The better the strategy alignment through BSC implementation, the more employees' organisational commitment will increase; H4c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' organisational commitment will increase; H4d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' organisational commitment will increase; H4e. The better the leadership involvement through BSC implementation, the more employees' organisational commitment will increase.
RQ4. Do the SFO principles within the implementation of the BSC have a relationship with public service motivation?	**H5**. The SFO principles within the implementation of the BSC are positively associated with public service motivation. H5a. The better the strategy translation through BSC implementation, the more employees' public service motivation will increase; H5b. The better the strategy alignment through BSC implementation, the more employees' public service motivation will increase;

	H5c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' public service motivation will increase; H5d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' public service motivation will increase; H5e. The better the leadership involvement through BSC implementation, the more employees' public service motivation will increase.
RQ5. How does public service motivation relate to organisational commitment within an organisation implementing the BSC?	**H6.** OC is positively associated with PSM within organisations that apply the BSC as their performance management systems.

7.3 Individual constructs

Three associations are analysed in this chapter. The first is the connection between BSC implementation and OC. In this analysis, strategy translation (st), strategy alignment (sa), strategy as everyone's everyday job (sj), strategy as a continuous process (sp) and leadership involvement (li) function as independent variables, whereas OC functions as the dependent variable. The second association examined is that between BSC implementation and PSM. In this analysis, strategy translation (st), strategy alignment (sa), strategy as everyone's everyday job (sj), strategy as a continuous process (sp) and leadership involvement (li) function as independent variables, whereas PSM functions as the dependent variable. The third association is that between PSM and OC, where PSM functions as the independent variable and OC functions as the dependent variable. In the proposed model, the BSC implementation variables of st, sa, sj, sp and li act as predictors; both OC and PSM act as outcome variables. This chapter is a continuation of the previous chapter; the researcher thus applied the correlations of the BSC implementation variables according to the results in Chapter 6.

7.4 Descriptive statistics of PSM and OC

The descriptive statistics in this chapter are divided into three parts. The first part provides information regarding OC and PSM in terms of organisation, job level, working rank, employee age, educational level, working tenure and gender. The second section delivers information about the distribution of the completed questionnaires with summary responses on 7-point Likert scales of the observed variables of OC and PSM. The last section on descriptive statistics provides information regarding means, standard deviations and Pearson's correlation coefficients.

7.4.1 Descriptive statistics of 7-point Likert scale responses

Table 7.2 presents means, standard deviations and percentages of answers on the Likert scale for each item within each latent variable. The table shows that the means of the items in the survey questionnaire range from 5.57 (Item psm3, 'Making a difference in society means more to me than personal achievements') to 6.25 (Item oc5: 'I feel like part of the family at this organisation'). The range of means indicates that most respondents tend to respond to all questionnaire items between 'neither agree nor disagree' and 'agree'.

Table 7.2 Scaled answers for all observed variables

Item	Item Question	Latent Variable	Mean	Std. Dev.	Percentage						
					StD (1)	D (2)	SID (3)	N (4)	SIA (5)	A (6)	StA (7)
oc1	I am quite proud to be able to tell people what organisation I work for	OC	6.11	0.85	0.4	0.4	1.3	1.7	8.3	57.3	30.6
oc2	What this organisation stands for is important to me	OC	6.19	0.65	0.1	0.1	0.1	1.4	7.1	61.7	29.5
oc3	My organisation and I are the same; therefore, the destiny of my organisation is also my own destiny	OC	6.06	0.71	0	0.2	0.3	2.3	11.6	61.8	23.8
oc4	I feel a strong sense of belonging to this organisation	OC	6.11	0.79	0	0.5	0.3	2.39	12.43	52.7	31.0
oc5	I feel like part of the family at this organisation	OC	6.25	0.73	0.1	0.2	0.3	1.7	7.1	53.2	37.4
oc6	The people I work with care what happens to me	OC	5.88	0.86	0.3	0.4	0.6	5.3	15.8	58.4	19.3

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Item	Item Question	Latent Variable	Mean	Std. Dev.	StD (1)	D (2)	SlD (3)	N (4)	SlA (5)	A (6)	StA (7)
oc7	This organisation appreciates my accomplishments on the job	OC	5.76	0.93	0.4	0.6	1.3	6.5	18.7	56.4	16.1
oc8	This organisation does all it can to recognise employees for their good performance	OC	5.66	0.99	.05	0.6	2.3	7.9	21.5	52.8	14.6
oc9	My effort on the job is largely appreciated by this organisation	OC	5.74	0.93	0.3	0.5	1.2	7.1	20.8	53.6	16.4
psm1	The work I do at my job as a civil servant is very important to me	PSM	6.21	0.69	0.2	0.1	0.3	1.1	7.5	57.9	33.0
psm2	I am not afraid to defend the rights of others even if it means I will be ridiculed	PSM	5.92	0.80	0.1	0.4	0.7	3.8	15.0	61.3	18.7
psm3	Making a difference in society means more to me than personal achievements	PSM	5.57	1.20	0.8	3.4	2.5	7.7	18.5	50.8	16.3
psm4	I am prepared to make enormous sacrifices for the good of society	PSM	6.01	0.76	0	0.6	0.4	2.3	12.3	61.9	21.9
psm5	Daily events often remind me how dependent we are on one another	PSM	6.11	0.79	0.1	0.4	0.8	2.2	10.0	56.8	29.7

Notes: Std. Dev. = standard deviation, StD = strongly disagree, D = disagree, SlD = slightly disagree, N = neither agree or disagree, SlA = slightly agree, A = agree and StA = strongly agree.

7.4.2 Means and standard deviations of OC and PSM across offices

Table 7.3 shows that employees in the offices of Tanjung Priok, Batam, Soetta and Cikarang demonstrated lower OC relative to employees in other offices. As discussed in the previous chapter, Tanjung Priok, Batam and Soetta are classified as large organisations, and the remaining nine organisations are considered small. The mean comparison illustrates that large organisations (Tanjung Priok, Batam and Soetta) are more likely to have lower OC than small organisations. Overall, OC in Purwakarta was the highest with 6.19, while Tanjung Priok and Cikarang show the lowest mean value of 5.84. However, the results regarding employees' PSM are more varied; Marunda's was the highest (6.17), followed by Bekasi (6.08) and Purwakarta (6.06). Bandung and Cikarang both display the lowest mean value of 5.85. Table 7.3 provides information about OC and PSM across the twelve customs and excise organisations.

Table 7.3 Means and standard deviations of OC and PSM across organisations

Organisation	OC			PSM		
	Mean	Std. Dev	N	Mean	Std. Dev	N
MSO of Tg. Priok	5.84	0.54	299	5.89	0.52	301
MSO of Batam	5.88	0.68	166	5.95	0.57	167
MSO of Soetta	5.78	0.6	230	5.90	0.55	231
CEO of Marunda	6.12	0.57	118	6.17	0.51	117
CEO of Jakarta	6.11	0.61	81	6.02	0.56	81
CEO of Tangerang	6.11	0.45	143	5.98	0.56	140
CEO of Merak	5.98	0.64	76	5.97	0.63	77
CEO of Bogor	6.10	0.44	113	5.96	0.53	113
CEO of Bekasi	6.15	0.55	157	6.08	0.55	152
CEO of Cikarang	5.84	0.63	92	5.85	0.61	90
CEO of Purwakarta	6.19	0.56	88	6.06	0.53	92
CEO of Bandung	5.93	0.57	94	5.85	0.55	94
Total	5.97	0.58	1,657	5.96	0.55	1,655

Note: N = observations; Std. Dev. = standard deviation

7.4.2.1 Means and standard deviations of OC and PSM across employee roles

Table 7.4 shows that OC and PSM means increase as job level increases. For OC, the lowest mean is at the staff level (OC of 5.86), followed by functional officers (5.94), then Echelon 5 employees (6.20) and Echelon 4 employees (6.21). The highest mean is shown among the Echelon 3 employees (6.23). For the latent PSM variable, the pattern is similar; the higher employees' job levels, the better their PSM results. Again, employees at the staff level had the lowest mean outcome (5.91), followed by functional officers (5.98), Echelon 5 employees (6.06), and Echelon 4 employees (6.09); the highest mean is shown by the Echelon 3 employees (6.16). Hence, it appears that employees' roles are positively correlated with both OC and PSM.

Table 7.4 Means and standard deviations of OC and PSM across employees' roles

Job level	OC			PSM		
	Mean	Std. Dev.	N	Mean	Std. Dev.	N
Staff level	5.86	0.59	1051	5.91	0.56	1051
Functional officer	5.94	0.52	95	5.98	0.58	96
Echelon 5	6.20	0.50	321	6.06	0.54	318
Echelon 4	6.21	0.51	165	6.09	0.50	164
Echelon 3	6.23	0.46	23	6.16	0.53	23
Total	5.97	0.58	1655	5.96	0.55	1652

Note: N = observations; Std. Dev. = standard deviation

7.4.2.2 Means and standard deviations of OC and PSM working ranks

Considered in terms of working rank, the mean OC fluctuates. There is an increase (5.83 to 6.12) in OC from Rank II to Rank III officers, but this figure then decreases to 6.09 among employees at Rank IV. However, PSM increases as working rank increases. The lowest PSM level was observed among Rank II employees, with a mean of 5.93; the means increased to 5.99 among Rank III employees and 6.09 among Rank IV employees. The details of OC and PSM distribution across working ranks are provided in Table 7.5.

Table 7.5 Means and standard deviations of OC and PSM across working ranks

Working Rank	OC			PSM		
	Mean	Std. Dev.	N	Mean	Std. Dev.	N
Rank II	5.83	0.61	849	5.93	0.53	852
Rank III	6.12	0.51	723	5.99	0.57	718
Rank IV	6.09	0.67	84	6.02	0.63	83
Total	5.97	0.58	1656	5.96	0.56	1653

Note: N = observations; Std. Dev. = standard deviation

7.4.2.3 Means and standard deviations of OC and PSM across employee ages

OC increases gradually with employee age, with the exception of employees aged 55 or older. Meanwhile, for PSM, the distribution fluctuates somewhat, particularly among employees over age 50. The detailed distribution of OC and PSM results, along with standard deviations, are provided in Table 7.6.

Table 7.6 Means and standard deviations of OC and PSM across employee ages

Employee Age	OC			PSM		
	Mean	Std. Dev.	N	Mean	Std. Dev.	N
18 - 30	5.80	0.60	774	5.93	0.53	778
>30 - 45	6.01	0.54	512	6.00	0.51	507
>45 - 50	6.28	0.50	115	6.15	0.45	114
>50 - 55	6.31	0.42	154	5.88	0.74	151
>55	6.24	0.46	91	6.01	0.61	91
Total	5.97	0.58	1646	5.97	0.55	1641

Note: N =observations; Std. Dev. = standard deviation

7.4.2.4 Means and standard deviations of OC and PSM across educational levels

Table 7.7 provides information on OC and PSM results classified according to educational level. As can be seen, the contribution of employee educational level differed between OC and PSM. High school graduates show the highest mean of OC (6.25), and Diploma III graduates show the lowest mean of OC. For PSM, however, high school, Diploma I, Diploma III and bachelor's graduates yielded relatively similar numbers (5.9); the highest level of PSM (6.06) was among employees with master's degrees.

Table 7.7 Means and standard deviations of OC and PSM across educational levels

Educational Level	OC			PSM		
	Mean	Std. Dev.	N	Mean	Std. Dev	N
High school	6.25	0.41	184	5.94	0.41	179
Diploma I	5.85	0.57	589	5.96	0.57	593
Diploma III	5.81	0.68	235	5.91	0.68	234
Bachelor's degree	6.05	0.57	420	5.97	0.57	418
Master's degree	6.06	0.55	212	6.05	0.55	211
Doctoral Degree	6.07	0	1	5.8	0	1
Total	5.97		1641	5.97	0.59	

Note: N = observations; Std. Dev. = standard deviation

7.4.2.5 Means and standard deviations of OC and PSM across working tenures

Table 7.8 shows that employees with more than 10 years at their organisations had the highest levels of OC. Those in the first two years of their tenure had a relatively high mean which then decreased among employees who had been at their organisations for three to five years. A similar trend appeared in PSM, with employees having worked for less than two years showing greater motivation.

Table 7.8 Means and standard deviations of OC and PSM across working tenures

Working Tenure	OC			PSM		
	Mean	Std. Dev.	N	Mean	Std. Dev.	N
<1	5.95	0.57	379	5.99	0.55	379
1 - <2	5.95	0.62	401	6.02	0.53	404
>2 - 5	5.89	0.59	458	5.94	0.51	457
>5 - 10	5.92	0.57	132	5.91	0.57	131
>10	6.20	0.50	275	5.93	0.65	269
Total	5.97	0.49	1645	5.97	0.55	1640

Note: N = observations; Std. Dev. = standard deviation

7.4.2.6 Means and standard deviations of OC and PSM according to gender

Table 7.9 shows the mean OC for a male (5.97) to be lower than for a female (6.00). However, in terms of PSM, the results show a higher mean among males (5.98) than among their female counterparts (5.88). It therefore appears that women are more committed to their organisations than men, while men show higher levels of PSM.

Table 7.9 Means and standard deviations of OC and PSM according to gender

Gender	OC			PSM		
	Mean	Std. Dev.	N	Mean	F	Std. Dev.
Male	5.97	0.59	1415	5.98	1424	0.53
Female	6.00	0.55	230	5.88	230	0.65
Total	5.97	0.59	1645	5.97	1654	0.55

Note: N = observations; Std. Dev. = standard deviation

7.4.3 Descriptive statistics of construct variables

This section provides information about OC and PSM means, standard deviations and Pearson's correlation coefficients.

7.4.3.1 Descriptive statistics of OC

The means, standard deviations, and Spearman's rank correlation coefficients for OC are provided in Table 7.10. The average mean is 5.97, with the highest score achieved by the variable 'I feel like part of the family at this organisation' (6.24). The lowest mean score was received by the variable 'This organisation does all it can to recognise employees for their good performance' (5.66). The standard deviation ranged from 0.65 to 0.99. This range of means indicates that employees agree or strongly agree with statements denoting commitment to their organisations. Meanwhile, the Spearman's rank correlation coefficients range from 0.33 to 0.74, and all correlation coefficients are significantly correlated.

Table 7.10 Descriptive statistics of OC variables

Item	Variable	Mean	St.D	oc1	oc2	oc3	oc4	oc5	oc6	oc7	oc8	oc9
oc1	I am quite proud to be able to tell people what organisation I work for	6.11	0.85	1								
oc2	What this organisation stands for is important to me	6.18	0.65	0.47*	1							
oc3	My organisation and I are the same; therefore, the destiny of my organisation is also my own destiny	6.06	0.71	0.44*	0.57*	1						
oc4	I feel a strong sense of belonging to this organisation	6.10	0.79	0.41*	0.51*	0.55*	1					
oc5	I feel like part of the family at this organisation	6.24	0.73	0.40*	0.45*	0.46*	0.56*	1				
oc6	The people I work with care what happens to me	5.88	0.85	0.33*	0.36*	0.35*	0.35*	0.44*	1			
oc7	This organisation appreciates my accomplishments on the job	5.76	0.93	0.34*	0.39*	0.45*	0.32*	0.41*	0.53*	1		
oc8	This organisation does all it can to recognise employees for their good performance	5.66	0.99	0.34*	0.38*	0.43*	0.35*	0.40*	0.48*	0.68*	1	
oc9	My effort on the job is largely appreciated by this organisation	5.74	0.93	0.36*	0.39*	0.43*	4	0.40*	0.49*	0.73*	0.74*	1

Note: St.D. = standard deviation
Total population = N=1656; * indicates statistically significant correlation at ρ < 0.01.

7.4.3.2 Descriptive statistics of PSM

The means, standard deviations, and Spearman's rank correlation coefficients for OC are provided in Table 7.11. The average mean is 5.96, with the highest score achieved by the statement 'Daily events often remind me how dependent we are on one another' (6.11) and the lowest mean shown for the variable 'Making a difference in society means more to me than personal achievements' (5.57). The standard deviations range from 0.65 to 0.99. The range of means indicates that employees agree or strongly agree with statements denoting public service motivation. The Spearman's rank correlation coefficients range from 0.21 to 0.48 and all correlation coefficients are significantly correlated at ρ < 0.01.

Table 7.11 Descriptive statistics of PSM variables

Item	Variable	Mean	St.D.	psm2	psm3	psm4	psm5
psm2	I am not afraid to defend the rights of others even if it means I will be ridiculed	5.92	0.79	1			
psm3	Making a difference in society means more to me than personal achievements	5.57	1.2	0.39*	1		
psm4	I am prepared to make enormous sacrifices for the good of society	6.02	0.75	0.48*	0.40*	1	
psm5	Daily events often remind me how dependent we are on one another	6.11	0.79	0.32*	0.21*	0.38*	1

Note: St.D. = standard deviation

Total population = N=1654; * indicates statistically significant correlation at $\rho <$ 0.01

7.5 Data processing analysis technique

With regards to the selection of analysis technique, this research gave strong consideration to the unique way in which the research question needed to be answered as well as to the characteristics and the correlations of the variables involved. Based on the considerations explained in Chapter 6, the multivariate technique applied in this chapter is SEM.

7.6 Data analysis preparation

This section provides information regarding the data screening processes undertaken before performing the main data analysis. Following Hair et al. (2010), prior to the main data analysis, a data screening process was conducted to reveal less perceptible characteristics and to thus obtain a truer picture of the real data without missing any easily overlooked hidden effects. Due to the fact that this chapter uses the same population as Chapter 6, sample analysis is not discussed here. Thus, this section considers missing data, outliers, and normality of data distribution of the construct variables, OC and PSM, before proceeding further with the data analysis process.

7.6.1   Analysis of missing data

The missing data discussed in this section (see Table 7.12) cover all 24 variables from the BSC implementation model as well as the nine OC variables and the five PSM variables. Thus, the total variables examined are 38 variables from seven latent constructs. Missing data were checked using the STATA 14 statistics software package. In general, the proportion of missing data was very low (ranging from 0.36 % to 1.14 %) in the individual variables; the total of missing values across the 24 variables was also low at 90 cases (5.37%). These values fall within acceptable levels according to the rule stating that missing data levels under 10% for an individual case or observation can generally be ignored (Hair et al. 2010, p. 47). Thus, the researcher simply used the remaining complete questionnaires (1,584 observations) for the subsequent process analysis.

Table 7.12 Distribution of missing values

Item		M	C	%
Code	Variable			
st1	Our organisation's strategy map helps me to better understand our organisation's strategic objectives	12	1,662	0.72%
st2	I know all about our organisation's KPIs	14	1,660	0.84%
st3	I know all about our organisation's KPI targets	19	1,655	1.14%
st4	My KPIs relate to the organisation's strategic objectives	18	1,656	1.08%
sa1	The organisational key performance indicators are cascaded proportionately	11	1,663	0.66%
sa2	The organisational KPI targets are cascaded proportionately	12	1,662	0.72%
sa3	My KPIs are aligned with those of other colleagues at the same level	12	1,662	0.72%
sj1	My KPIs are in line with organisational KPIs	13	1,661	0.78%
sj2	I have good quality KPIs	14	1,660	0.84%
sj3	My KPI targets are realistic	15	1,659	0.90%
sj4	My KPI targets support the accomplishment of organisational targets	15	1,659	0.90%
sj5	There is active dialogue with my direct supervisor when determining my KPIs	12	1,662	0.72%
sj6	There is active dialogue with my direct supervisor when determining my KPI targets	12	1,662	0.72%
sj7	The rewards system is linked to KPI target achievement	14	1,660	0.84%
sp1	My competence development is aligned with organisational strategy	13	1,661	0.78%
sp2	BSC management is supported with sound information technology	15	1,659	0.90%
sp3	I find the performance reporting procedure easily understandable	14	1,660	0.84%
sp4	Performance reporting requires solid proof	14	1,660	0.84%
li1	The head of the organisation educates me about performance management based on the BSC	12	1,662	0.72%
li2	The head of the organisation provides sufficient information regarding organisation's strategies/goals	7	1,667	0.42%
li3	I know all about our organisation's objectives	12	1,662	0.72%
li4	The head of the organisation motivates me to accomplish my targets	10	1,664	0.60%
li5	My direct supervisor actively guides me to reach my performance goals	9	1,665	0.54%
li6	My direct supervisor monitors my performance through key performance indicator	6	1,668	0.36%
oc1	I am quite proud to be able to tell people what organisation I work for	7	1,667	0.42%
oc2	What this organisation stands for is important to me	6	1,668	0.36%
oc3	My organisation and I are the same; therefore, the destiny of my organisation is also my own destiny	8	1,666	0.48%
oc4	I feel a strong sense of belonging to this organisation	11	1,663	0.66%
oc5	I feel like part of the family at this organisation	10	1,664	0.60%
oc6	The people I work with care what happens to me	6	1,668	0.36%
oc7	This organisation appreciates my accomplishments on the job	6	1,668	0.36%
oc8	This organisation does all it can to recognise employees for their good performance	7	1,667	0.42%

oc9	My effort on the job is largely appreciated by this organisation	6	1,668	0.36%
psm1	The work I do at my job as a civil servant is very important to me	6	1,668	0.36%
psm2	I am not afraid to defend the rights of others even if it means I will be ridiculed	9	1,665	0.54%
psm3	Making a difference in society means more to me than personal achievements	14	1,660	0.84%
psm4	I am prepared to make enormous sacrifices for the good of society	9	1,665	0.54%
psm5	Daily events often remind me how dependent we are on one another	7	1,667	0.42%

Note: M = missing values; C = complete observations; % = percentage of missing questionnaire; total observations (N = 1,674)

7.6.2 Analysis of outliers

First, a frequency test was conducted to reveal the distribution of participants answering the survey questionnaire. Any number apart from a 7-point Likert scale value that appeared in the survey questionnaire was considered as an outlier (see Kline 2011; Hair et al. 2010). The data examined were all fourteen variables, with nine items representing OC and five variables representing PSM. As shown in Table 7.13, in the item 'My effort on the job is largely appreciated by this organisation' (oc9), a number (9) appeared. This number is not within the range of the Likert scale (1 to 7).

Table 7.13 Frequency of variable oc9

Score	Frequency	Percentage	Cumulative
1	5	0.3	0.3
2	9	0.54	0.84
3	20	1.2	2.04
4	119	7.13	9.17
5	346	20.74	29.92
6	895	53.66	83.57
7	273	16.37	99.94
9	**1**	**0.06**	**100**
Total	1,668	100	

After finding the variable (oc9) that contained an outlier (score: 9), the next step was to locate the case number containing the outlier. Subsequently, Nick Cox's extremes command using the STATA program was used to identify which case included a score of 9. Table 7.14 shows that the case number was 481. Therefore, to avoid the possibility of bias, the researcher deleted case 481 for subsequent

analysis. The final number of samples for the next phase of analysis was 1,673 observations.

Table 7.14 Outlier identification

Case	Scale
437	1
444	1
580	1
749	1
819	1
1611	7
1614	7
1647	7
1662	7
481	**9**

7.6.3   Analysis of normality of data distribution

After completing the analysis of the outliers, a test of the normality of data distribution was conducted. As in the outliers test, the data tested included the fourteen variables under the classifications of OC (nine observed variables) and PSM (five observed variables). The researcher ran statistical tests (using the STATA 14 package) for univariate, bivariate and multivariate normality. The results showed the univariate normality for both OC and PSM to be significant at $\rho < 0.01$ for all 14 observed variables. This indicates that data distribution significantly differs from a normal distribution, or that the data do not meet the normal distribution. Similar to the univariate results, a multivariate test of data distribution (using skewness, kurtosis and Doornik-Hansen omnibus) showed significance at $\rho < 0.01$. This means that the data deviate from normality, and that the data distributions are thus not normal. However, as explained in Fidel (2007) and Hair et al. (2010), the issue of non-normality is not of concern in a study with large data samples.

7.7 Data analysis

As noted in Section 7.5, the analysis technique used at this stage was SEM. Before running the SEM program, the reliability tests and factor loadings of the latent constructs OC and PSM were assessed. Thus, the next section discusses the assessment of reliability, assessment of factor loadings, and SEM results.

7.7.1   Assessment of reliability

Nunnally (1967, cited in Streiner 2003, p.163) suggested that the Cronbach's alpha coefficient must be in the range of 0.50 to 0.60 in the early stages of research, reaching 0.80 for basic research tools. Nunnally selected 0.90 as the 'minimally tolerable estimate' for clinical purposes, with an ideal of 0.95. In this research, the Cronbach's alpha coefficient for the latent OC variable was 0.87, with 0.67 for the latent PSM variable. These values are considered to be good for reliability and internal consistency (Hair et al. 2006, p. 127).

7.7.2   Assessment of factor loading

High convergent validity occurs when high loadings in a factor would indicate that they converge on a common point, the latent construct (Hair et al. 2010). Therefore, the researcher first conducted factor analysis (rotated factor loading) to assess the factor loadings within each of the latent variables.

7.7.2.1   OC factor loadings

As can be seen from Table 7.15, the loading factors of all OC variables (ranging from 0.49 to 0.80) are above the acceptable level of 0.4 according to Hair et al. (2010, p. 118). Thus, all observed variables were retained at this stage as adequate evidence of validity convergent existed.

Table 7.15 OC factor analysis (rotated factor loading)

Code	Variable	Factor
oc1	I am quite proud to be able to tell people what organisation I work for	0.49
oc2	What this organisation stands for is important to me	0.61
oc3	My organisation and I are the same; therefore, the destiny of my organisation is also my own destiny	0.65
oc4	I feel a strong sense of belonging to this organisation	0.58
oc5	I feel like part of the family at this organisation	0.65
oc6	The people I work with care what happens to me	0.63
oc7	This organisation appreciates my accomplishments on the job	0.79
oc8	This organisation does all it can to recognize employees for their good performance	0.77
oc9	My effort on the job is largely appreciated by this organisation	0.80

7.7.2.2 PSM factor loadings

Table 7.16 shows that the results with all loading factors are at above 0.4 (see Hair et al 2010, p.118) excluding variable "the work I do as a civil servant on my job is very important to me" (psm1) with only 0.35-factor loading.

Table 7.16 PSM factor loadings (rotated factor loading)

Code	Variable	Factor
psm1	The work I do at my job as a civil servant is very important to me	0.354
psm2	I am not afraid to defend the rights of others even if it means I will be ridiculed	0.6245
psm3	Making a difference in society means more to me than personal achievements	0.4802
psm4	I am prepared to make enormous sacrifices for the good of society	0.6447
psm5	Daily events often remind me how dependent we are on one another	0.4641

Given these results, the researcher conducted another factor analysis excluding Item psm1 to check the composition of the factor loadings. Table 7.17 illustrates the second factor analysis of the latent PSM variable.

Table 7.17   Final PSM factor analysis (rotated factor loading)

Code	Variable	Factor
psm2	I am not afraid to defend the rights of others even if it means I will be ridiculed	0.6228
psm3	Making a difference in society means more to me than personal achievements	0.4781
psm4	I am prepared to make enormous sacrifices for the good of society	0.6445
psm5	Daily events often remind me how dependent we are on one another	0.4631

The results of the second factor analysis show that the factor loadings of all variables (psm2, psm3, psm4 and psm5) are above 0.4 as recommended by Hair et al. (2010, p. 118). These results indicate that items psm2, psm3, psm4 and psm5 had adequate evidence of validity convergence for the subsequent analysis process. Hence, in the subsequent analysis, the latent PSM variable was represents by observed variables psm2, psm3, psm4 and psm5.

7.7.3   SEM analysis

7.7.3.1   Tested model

This section considers the initial model, which was tested using SEM. The analysis process involved seven latent variables. As in Chapter 6, the first five latent variables measured BSC implementation as represented by the five SFO principles. BSC implementation acted as the independent variable. PSM and OC acted as dependent variables. In addition to testing the relationships between BSC implementation and both OC and PSM, the researcher applied four demographic variables, primarily as control variables. These were educational level, age, gender and organisation tenure. Figure 7.1 illustrates the relationships in the model tested in this analysis.

Figure 7.1 BSC association with OC and PSM
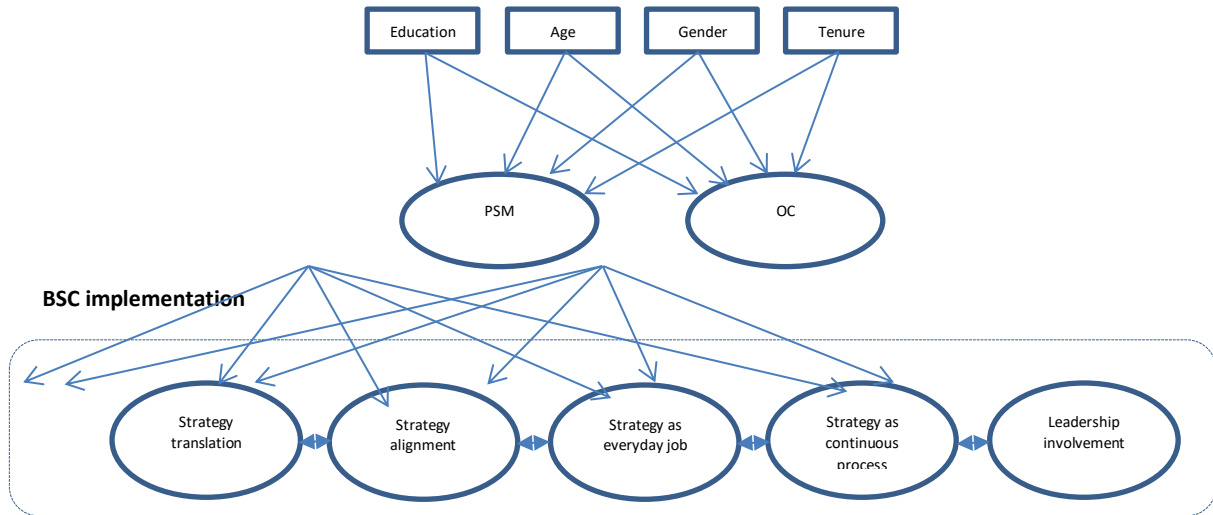
7.7.3.2 SEM results

The SEM process resulted in fit indices as follows: the RMSEA was 0.053, repesenting a good fit (Steiger 2007; Hair et al. 2010, p. 667). The CFI value was 0.909 and the TLI value was 0.896; these are acceptable. According to Hair et al. (2010, p. 669) a cut-off criterion of ≥ 0.90 for CFI and TLI indicates goodness of fit. Meanwhile, the SRMR result was 0.053, which indicates a good fit as it is under the maximum level (0.08) suggested by Hu and Bentler (1999), Hooper et al. (2008) and Iacobucci (2010). Hence, based on the fit index results, the model of the associations between BSC implementation and OC and PSM can be considered to be a good fit.

The complete results of the examination of BSC implementation and its association with OC and PSM are as described in Table 7.18.

Table 7.18 Measurement model estimates and structural model of BSC, OC and PSM

Measurement model estimates	
Strategy translation -> st1	0.77(0.12) ‡
Strategy translation -> st2	0.68(0.02) ‡
Strategy translation -> st3	0.70(0.02) ‡
Strategy translation -> st4	0.62(0.02) ‡
Strategy alignment -> sa1	0.79(0.01) ‡
Strategy alignment -> sa2	0.86(0.01) ‡
Strategy alignment -> sa3	0.69(0.01) ‡
Strategy as job -> sj1	0.67(0.01) ‡
Strategy as job -> sj2	0.73(0.01) ‡
Strategy as job -> sj3	0.65(0.02) ‡
Strategy as job -> sj4	0.67(0.02) ‡
Strategy as job -> sj5	0.64(0.02) ‡
Strategy as job -> sj6	0.62(0.02) ‡
Strategy as job -> sj7	0.58(0.02) ‡
Strategy process -> sp1	0.74(0.01) ‡
Strategy process -> sp2	0.78(0.01) ‡
Strategy process -> sp3	0.78(0.01) ‡
Strategy process -> sp4	0.68(0.01) ‡
Leadership involvement -> li1	0.76(0.01) ‡
Leadership involvement -> li2	0.79(0.01) ‡
Leadership involvement -> li3	0.77(0.12) ‡
Leadership involvement -> li4	0.81(0.01) ‡
Leadership involvement -> li5	0.59(0.02) ‡
Leadership involvement -> li6	0.59(0.02) ‡
OC -> oc1	0.40(0.02) ‡
OC -> oc2	0.48(0.02) ‡
OC -> oc3	0.54(0.02) ‡
OC -> oc4	0.46(0.02) ‡
OC -> oc5	0.55(0.02) ‡
OC -> oc6	0.61(0.02) ‡
OC -> oc7	0.84(0.01) ‡
OC -> oc8	0.85(0.01) ‡
OC -> oc9	0.86(0.01) ‡
PSM -> psm2	0.67(0.02) ‡
PSM -> sj3	0.47(0.02) ‡
PSM -> sj4	0.69(0.02) ‡
PSM -> sj5	0.49(0.02) ‡
Structural model	
PSM -> OC	0.13(0.03) ‡
Educational level -> OC	-0.00(0.01)
Age -> OC	-0.07(0.02) ‡
Gender -> OC	-0.05(0.02) ‡
Organisation tenure -> OC	-0.00(0.02)
Strategy translation -> OC	-0.36(0.14) †
Strategy alignment -> OC	0.09(0.06)
Strategy as job -> OC	0.08(0.09)
Strategy process -> OC	0.33(0.06) ‡
Leadership involvement -> OC	0.63(0.08) ‡
Educational level -> PSM	-0.18(0.03)
Age -> PSM	0.12(0.03) ‡
Gender -> PSM	0.05(0.03) *
Organisation tenure -> PSM	-0.08(0.03) ‡
Strategy translation -> PSM	0.49(0.19) †
Strategy alignment -> PSM	-0.04(0.09)
Strategy as job -> PSM	0.35(0.13) ‡
Strategy process -> PSM	-0.26(0.08) ‡
Leadership involvement -> PSM	-0.01(0.11)

Note: Reported are standardised coefficients (standard errors). Sig.: *: 10% or less; †: 5% or less; ‡: 1% or less.

7.8 Hypothesis testing

This section discusses the associations between the findings and the hypotheses proposed. Before presenting the findings with regard to the hypotheses, we provide the findings as related to the control variables. Educational level was found to have an insignificant relationship with both OC and PSM. This finding thus contrasts with those of previous studies (Motaz 1986; Perry 1997; Camilleri and Heijden 2007). Concerning age, the results were mixed; older age showed a negative relationship with OC (β=- 0.07 at ρ <0.01) and a positive relationship with PSM (β= 0.12 at ρ <0.01). Therefore, as regards the connection of age with OC, the findings supported the previous study by Camilleri and Heijden (2007). Meanwhile, regarding the connection between age and PSM, the findings supported Perry (1997). With respect to gender, maleness had a negative association with OC (β=- 0.05 at ρ <0.01), supporting Perry's (1997) results. However, maleness showed a positive association with PSM (β= 0.05 at ρ <0.1), confirming Vandenabeele's (2011) work. In terms of organisation tenure, only the relationship with PSM was significant (β=- 0.08 at ρ <0.05); no significant relationship with OC was shown. This result thus supports Balfour and Wechsler's (1996) conclusion that organisation tenure has an insignificant relationship with OC.

Turning to the main variables, three main hypotheses were to be tested in this part of the research: the association of BSC implementation with OC, the association of BSC implementation with PSM, and the relationship of OC with PSM in organisations implementing BSC. The following is an explanation of the hypothesis testing based on the findings from the SEM process. Firstly, with regard to OC, we found that of the five latent variables of BSC implementation, three had a significant effect. These were strategy translation, strategy as a continuous process and leadership involvement. The relationship between BSC implementation and OC can be summarised thus:

- Strategy translation has a negative and significant relationship with OC (β=-0.36 at ρ <0.05);
- Strategy as a continuous process has a positive and significant relationship with OC (β= 0.33 at ρ <0.01);
- Leadership involvement has a positive and significant relationship with OC (β= 0.63 at ρ <0.01).

Secondly, in a similar vein, not all variables of BSC implementation showed a statistically significant relationship with PSM. The three latent variables found to have a significant association with PSM were strategy translation, strategy as everyone's everyday job, and strategy as a continuous process. Meanwhile, the other two variables, strategy alignment and leadership involvement, were not found to be significantly associated with PSM. The significant associations can be summarised thus:

- Strategy translation has a positive and significant relationship with PSM (β= 0.49 at ρ <0.05);
- Strategy as everyone's everyday job has a positive and significant relationship with PSM (β= 0.35 at ρ <0.01);
- Strategy as a continuous process has a negative and significant relationship with PSM (β= -0.26 at ρ <0.01).

Thirdly, regarding the association between OC and PSM, we found PSM to have a positive correlation with OC (β= 0.13 at ρ <0.01). Table 7.19 summarises the findings in correlation with the hypotheses.

Table 7.19 Hypothesis testing results

Research question	Hypothesis	Results
RQ3. Do the SFO principles within the implementation of the BSC framework have a relationship with organisational commitment?	**H4.** The SFO principles within the implementation of the BSC are positively associated with organisational commitment. H4a. The better the strategy translation through BSC implementation, the more employees' organisational commitment will increase; H4b. The better the strategy alignment through BSC implementation, the more employees' organisational commitment will increase; H4c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' organisational commitment will increase; H4d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' organisational commitment will increase; H4e. The better the leadership involvement through BSC implementation, the more employees' organisational commitment will increase.	**Not supported.** Strategy translation has a negative and significant relationship with OC (β=- 0.36 at ρ <0.05); **Not significant**. Strategy alignment has a positive and insignificant relationship with OC (β= 0.09 at ρ >0.1); **Not significant.** Strategy as everyone's everyday job has positive and insignificant relationship with OC (β= 0.08 at ρ >0.1); **Supported.** Strategy as a continuous process has a positive and significant relationship with OC (β= 0.33 at ρ <0.01); **Supported.** Leadership involvement has a positive and significant relationship with OC (β= 0.63 at ρ <0.01).
RQ4. Do the SFO principles within the implementation of BSC have a relationship with public service motivation?	**H5.** The SFO principles within the implementation of the BSC are positively associated with public service motivation. H5a. The better the strategy translation through BSC implementation, the more employees' public service motivation will increase; H5b. The better the strategy alignment through BSC implementation, the more employees' public service motivation will increase; H5c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' public service motivation will increase; H5d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' public service motivation will increase;	**Supported.** Strategy translation has a positive and significant relationship with PSM (β= 0.49 at ρ <0.05); **Not significant**. Strategy alignment has a negative and insignificant relationship with PSM (β= -0.04 at ρ >0.1); **Supported.** Strategy as everyone's everyday job has a positive and significant relationship with PSM (β= 0.35 at ρ <0.01); **Supported.** Strategy as a continuous process has a negative and significant

		relationship with PSM (β= -0.26 at ρ <0.01);
	H5e. The better the leadership involvement through BSC implementation, the more employees' public service motivation will increase.	**Not significant**. Leadership involvement has a negative and insignificant relationship with PSM (β= -0.01 at ρ >0.01).
RQ5. How does OC relate to PSM within an organisation implementing the BSC?	**H6.** Public service motivation is positively associated with organizational commitment within organisations that apply the BSC as their performance management systems.	**Supported**. OC is positively associated with PSM within organisations applying the BSC (β= 0.13 at ρ <0.01).

7.9   Chapter summary

The overall purpose of this chapter was to seek answers to three main questions:

RQ3. Do the SFO principles within the implementation of the BSC have a relationship with organisational commitment?

RQ4. Do the SFO principles within the implementation of the BSC have a relationship with public service motivation?

RQ5. How does public service motivation relate to organisational commitment within an organisation implementing the BSC?

To analyse the data, the researcher applied SEM with STATA 14 by using maximum likelihood.

Prior to beginning the data analysis process, the researcher conducted data screening including the examination of missing data, outliers and normality of data distribution analysis. At the end of the data cleansing process, the total number of observations ready to analyse was 1,584. In terms of reliability testing, the researcher tested only OC and PSM given that the other five latent variables (strategy translation, strategy alignment, strategy as everyone's everyday job, strategy as a continuous process and leadership involvement) had already been

tested. The reliability tests using Cronbach's alpha resulted in coefficients of 0.87 for OC and 0.67 for PSM. After conducting the reliability tests, the researcher assessed the loading factors and found that all variables representing OC (oc1, oc2, oc3, oc4, oc5, oc6, oc7, oc8, oc9) were above the threshold (0.4), while one variable representing PSM (psm1) loaded at <0.4 (Hair et al. 2010, p. 167). Thus, the SEM analysis proceeded with all observed variables within the latent OC variable, while for PSM, the analysis proceeded with items psm2, psm3, psm4 and psm5.

The SEM parameters used to evaluate the model were RMSEA, SRMR, CFI value index, and TLI. The SEM analysis resulted in RMSEA of 0.053, SRMR of 0.053, CFI value index of 0.909 and TLI value of 0.896; these results all qualified the model as a good fit. Thus, according to the fit index results, the modified model proved to be a good fit. All findings as summarised in Table 7.19 are further discussed in Chapter 9.

Chapter 8:   Findings on the Relationship between the BSC and Organisational Performance

8.1   Introduction

This chapter uses a different approach from the previous findings chapters (Chapters 6 and 7) in the way in which BSC implementation acts as an independent variable. This is due to the purpose of this chapter, which aims at investigating the relationship between BSC implementation and OP. In this study, OP is measured using performance data collected during the fieldwork activities. The data collected describes OP at the organisational level (that is, not as the average of all individual employees' performance levels). The data should therefore also be drawn at the organisational level. This study used two variables as representatives of OP: state revenue collection and customer satisfaction index. Based on the data available, the researcher applied two different tools to analyse each of the organisational measurements. The first analysis, that of the relationship between the BSC and state revenue collection, was performed using panel data regression. The second analysis, which measured the correlation between the BSC and customer satisfaction index, was examined using growth curve modelling. The results of these two analytical techniques provided empirical evidence of the association between BSC implementation and OP in public-sector organisations.

The structure of this chapter is as follows: the next section concerns the research question and hypothesis, focusing on the analysis process undertaken in this chapter. The subsequent section provides information about the research variables, which are divided into dependent and independent variables. This is followed by an explanation of the BSC implementation cut-off year, a discussion of the data collection, and descriptive results of the variables of state revenue collection and customer satisfaction index. The main data analysis, using panel

data regression and growth curve model, is then provided. In the penultimate section, we present the results of the hypothesis testing; these serve to compare the hypothesis initially constructed with the results of the analysis. In the final part of this chapter, the results of the study are presented, responding to the research question: How is BSC implementation associated with organisational performance?

8.2 Research question and hypothesis

In this chapter, the researcher introduces Hypothesis H7: Implementation of BSC has a positive association with organisational performance. Table 8.1 shows the hypothesis constructed as a response to the research question to be tested in this chapter.

Table 8.1 Research question and hypothesis

Research question	Hypothesis
RQ6. How is BSC implementation associated with organisational performance?	**H7.** The implementation of the BSC is positively associated with organisational performance.

8.3 Variables of the research

Finding the connection between the BSC implementation and OP is difficult because of a general lack of valid measures of service, especially service outcomes (Stein 1986, cited in Crewson 1997, p.507). Similarly, de Geuser et al. (2009, p. 99) pointed out that consideration of the ways in which BSC can be linked to OP is often blurred by the question of how to measure the contribution. Madsen and Stenheim (2015) stated that there are many variables mediating and moderating the relationship between BSC implementation and OP. With an awareness of the difficulty of finding representative parameters of OP in public-sector organisations, the researcher created four essential steps to support the logic of

measuring the relationship between the BSC and OP. First, following Braam and Nijssen's (2004, p. 345) assertion that BSC implementation is worthwhile only if it is aligned with organisational strategy, the present study employed two OP indicators. These two performance indicators are directly connected with the customs and excise organisations' strategic objectives as provided in the strategy maps of the twelve responding organisations. Second, the data for the two variables are available at different points in time (longitudinal data). The data for state revenue collection was available from 2009 to 2016, thus covering the period before and after the BSC was implemented in the organisations. The data from the customer satisfaction was available from 2014 to 2016, covering the period after BSC implementation. Third, performance as measured by the two variables of state revenue collection variable and customer satisfaction index was reported in figures. Fourth, the research used an additional variable, organisation size, for the purposes of introducing a control variable.

8.3.1 Independent variable

The main goal of this chapter is to investigate whether the implementation of the BSC as PMS has any relationship with OP. Kaplan and Norton (1996) posited that the BSC provides a framework for managing the execution of strategy while also enabling the strategy itself to evolve in response to challenges in the organisations' competitive, market, and technological environments. To follow up on the implementation of BSC principles, all twelve of the customs and excise organisations under consideration in this study created strategy maps. One of the main considerations leading to the selection of these specific twelve customs and excise organisations in this research was that they had one common strategic objective (optimal state revenue collection) from the stakeholder perspective and one strategic objective (high customer satisfaction) from the customer perspective. This research was developed based on primary data collected during fieldwork activity in the first quarter of 2016, with the exception of the 2016 data, which became available in approximately February of 2017. Twelve organisations

participated in the research: the MSOs of Tanjung Priok, Batam, and Soetta and the CEOs of Jakarta, Marunda, Merak, Tangerang**,** Bekasi, Bogor**,** Purwakarta, Cikarang and Bandung.

For the purpose of analysis, BSC implementation was treated as a binary variable represented by '1' if the BSC had been fully implemented across all levels of the organisation and '0' otherwise. The BSC had been implemented in the large customs and excise organisations in 2009. In 2010, the BSC began to be implemented in the smaller CEOs. In the initial phases, the organisations implemented the BSC at the organisational level, gradually cascading the system to the lower levels of each organisation. In 2011, they extended the implementation to the staff/employee level in accordance with Ministerial Decree Number 454/KMK.01/2011). In addition to BSC implementation, the researcher also included the variable of organisation size, primarily as a control variable. According to the binary system adopted, large organisations were represented by '1' and small organisations by '0'.

8.3.2   Dependent variables

8.3.2.1   Rationale for selection of the dependent variables

As stated at the outset of this chapter, two performance indicators were used in this study: state revenue collection and customer satisfaction index. There are three considerations according to which these two parameters were chosen to represent OP. The first is that both are actual performance indicators used by all twelve organisations that participated in this study. On the BSC strategy maps of the twelve CEOs, state revenue collection is a key performance indicator (KPI) describing the strategic objective of optimal state revenue collection. This objective is located at the stakeholder perspective layer. On the same strategy maps, the customer satisfaction index functions as a KPI of the strategic objective of high customer satisfaction, located at the customer perspective layer.

The second reason for the choice of these two parameters is the high quality of the measurements that can be made from the dimensions of those two parameters. Optimal state revenue collection is one of the ultimate goals of the twelve organisations being studied, and the achievement of this goal is supported by all of the organisations' other strategic objectives. The achievement of optimal state revenue collection, in fact, represents the primary purpose of the organisations' efforts. With regard to the customer satisfaction index, assessing this factor is very important for each of the customs and excise organisations because it represents the degree of satisfaction of all customers (importers, exporters, manufacturers, traders and other related government agencies). The indices are generated by a customer survey and is conducted annually. The survey itself describes four aspects of performance, namely system and procedure of service, employee behaviour, office facilities, and information service. Thus, the survey provides an opportunity for service users to evaluate the service quality delivered by the customs and excise organisation. In addition, the organisation being surveyed has no influence over the survey results; it can only attempt to deliver excellent service to customers. In consideration of the fact that the customer survey results represent the views of service users, this consumer survey can be regarded as an objective indicator of OP.

The third reason for the choice of the two measures used in this chapter is data availability. In terms of state revenue collection, all twelve customs and service organisations were able to provide annually collected datasets (from 2009 onwards) as needed for this research. The availability of this performance indicator is essential, because the main purpose of this study is to examine the impact of BSC implementation. Therefore, due to the relatively complete longitudinal data, the researcher was enabled to examine any differences in state revenue collection before and after the BSC implementation period in each organisation. Meanwhile, in terms of the customer satisfaction indices, all twelve organisations were able to supply data only from 2013, 2014, 2015 and 2016. Thus,

the customer satisfaction index data could only be used for analysing BSC influence after the implementation period.

8.3.2.2 State revenue collection

State revenue collection is a composite of three sources of revenue: customs duty, excise duty and export duty. Every year, the customs and excise organisations receive the target distributed by the upper level of their coordinating organisations. The twelve organisations participating in this study have optimal state revenue collection as their strategic objective, where the achievement of this goal has become the key performance indicator (KPI) for assessing the achievement of the strategic outcome. State revenue collection is the most important measurement for the twelve participating organisations.

8.3.2.3 Customer satisfaction index

The customer satisfaction index portrays the aspects of an organisation's system and procedures for customer service delivery, employee behaviour, office facilities, and information service. In addition to functioning as a key performance indicator, the twelve organisations being studied utilise the results of the customer satisfaction surveys to improve their level of customer service delivery. The customs and excise headquarters standardise the questionnaire used in the survey of customer satisfaction and instructs the customs and excise organisations to carry out the survey annually using the standardised questionnaires. With regard to the survey respondents, each organisation conducts an external survey, sending it to customers who have direct experience of using customs and excise services via either the web or direct visits to MSOs or CEOs.

8.4 BSC cut-off years

The BSC was implemented differently amongst the twelve organisations participating in the present research. The MSO of Tanjung Priok and the MSO of Batam, both of which are large organisations, began their BSC implementation gradually in 2009. In 2009, they first adopted the BSC as their PMS and then cascaded the implementation within their organisations. Meanwhile, the nine remaining organisations (the CEO of Cikarang had not yet been opened) began the implementation of the BSC as their PMS in 2010 and gradually cascaded the system within their organisations. As decreed in Ministerial of Finance Decree 454 (2011), starting in 2011, the twelve CEOs began to implement the BSC as the individual-level performance management system. Since 2012, the BSC has been the PMS not only at the organisational level but also at the individual level. Hence, the performance of all employees within the organisations has since that time been measured using KPIs which are directly or indirectly related to their organisational strategic objectives. Given the fact that all Indonesian customs and excise organisations have applied the BSC at the individual level since 2012, this research considers the cut-off year for all organisations to be 2012, with the exception of the CEO of Cikarang. The CEO of Cikarang was first established in 2015, and in this case, the BSC was introduced at organisational and individual levels simultaneously.

8.5 Data collection

Most of the data on state revenue collection (2009 to 2016) and customer satisfaction indices (2013 to 2016) were collected during the researcher's fieldwork activities, excluding the 2016 performance data, which became available in February 2017. The data on state revenue collection formed part of the questionnaire for this study and were therefore to be provided by the performance managers in each organisation. Meanwhile, the 2016 data for both variables became available in the first quarter of 2017. The researcher therefore

contacted the person in charge in each of the twelve organisations to obtain the 2016 data on state revenue collection and customer satisfaction indices. To ensure accuracy, the data were double checked by the contact person responsible for keeping the records of those twelve organisations in a unit of the Headquarters of Customs and Excise. With their accuracy confirmed, the data on state revenue collection for the period from 2009 to 2016 and customer satisfaction indices for the period from 2013 to 2016 were ready for the subsequent process of analysis.

8.6 Descriptive statistics

8.6.1 Descriptive statistics on state revenue collection

This section describes the achievements of the twelve participating organisations in terms of state revenue collection and customer satisfaction. The levels of state revenue collection from 2009 to 2016 are illustrated in Figure 8.1.

Figure 8.1 State revenue collection of the 12 customs and excise organisations
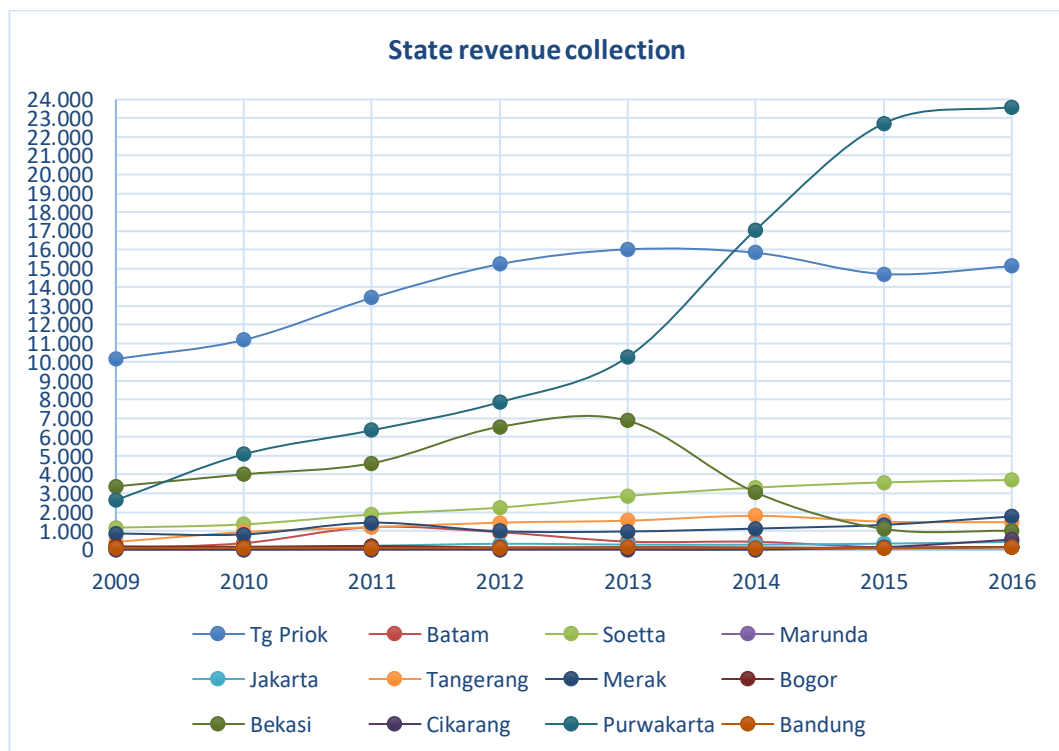
As seen in Figure 8.1, state revenue increased beginning in 2009 and reached its peak level in 2013. In the subsequent two years, state revenue showed a decreasing trend; however, it began to increase again in 2016. In general, for the period from 2009 to 2016, state revenue collection at the MSO of Tanjung Priok increased relatively steadily, with only a slight decrease in the 2014 and 2015 fiscal years. Considering BSC implementation, from 2009 to 2011 (before the implementation of the BSC), state revenue collection at the MSO of Tanjung Priok experienced an upward trend. In the period from 2012 to 2016 (after the implementation of the BSC), the trend fluctuated, with an increasing trend lasting until 2013, followed by decreasing trends in 2014 and 2015 and regaining positive momentum in 2016. At the MSO of Batam, state revenue collection increased dramatically in 2010 and 2011. It then decreased substantially in 2012 and 2013, and the downward trend continued until 2015. In 2016, the level of state revenue collection began to increase again. In general, for the period from 2009 to 2016, the performance of state revenue collection at the MSO of Batam was quite variable, with the year 2011 marking the office's highest achievement. With respect to BSC implementation, from 2009 to 2011 (before implementation of BSC), the MSO of Batan's state revenue collection increased. From 2012 to 2016 (after implementation of the BSC), the MSO of Batam state revenue collection experienced mostly a negative trend (2012, 2013, 2014 and 2015), with a slight increase in 2016. As seen in Figure 8.1, state revenue collection at the MSO of Soetta showed positive growth in the period from 2009 to 2016 with the highest levels of revenue collection attained in 2016, when state revenue collection was nearly triple that of 2009. In terms of BSC implementation, from 2009 to 2011 (before BSC implementation), state revenue collection levels display a constantly increasing trend. The trend remained positive during the 2012 to 2016 period (after BSC implementation).

Turning to the smaller offices, we found a variety of trends among the nine CEOs. For the CEO of Marunda, Figure 8.1 shows both upward and downward movement

in state revenue collection from 2009 to 2016. There was a minor decrease in collection from 2009 to 2010; however, in 2011, state revenue collection increased to more than three times that of the previous year. In 2014, there was a slight decrease, and in 2015 collection decreased by almost half from the previous year. In 2016, the CEO of Marunda's state revenue collection increased substantially, more than doubling the previous year's contribution. In general, for the period of 2009 to 2016, the state revenue collections at the CEO of Marunda fluctuated; the office's highest achievement occurred in 2016 with more than seven times its 2009 contribution. With regard to BSC implementation, from 2009 to 2011 (before implementation of BSC), state revenue collection displays a fluctuating trend. Likewise, in the period from 2012 to 2016 (after implementation of BSC), the trend continued to fluctuate, including a slight decrease in 2012 followed by a major increase (approximately triple the previous year's figure) in 2013. In 2014 and 2015, the trend was negative; however, state revenue collection in the year 2016 doubled that of 2015 and thus set a new high point at the CEO of Marunda.

At the CEO of Jakarta, state revenue collection shows a positive trend during the period from 2009 to 2016. There was a slight decrease in state revenue collection in 2013 and 2014, but the office displayed positive growth in the 2015 and 2016 fiscal years. With respect to BSC implementation, from 2009 to 2011 (before BSC implementation), state revenue collection at the CEO of Jakarta shows a somewhat increasing trend, with only a slight decrease in 2010. Meanwhile, for the 2012 to 2016 period (after BSC implementation), the trend fluctuated slightly with a major increase in 2012 followed by a decreasing trend in 2013 and 2014. State revenue collections at the CEO of Jakarta then increased substantially in both 2015 and 2016. Turning to the CEO of Merak, the movement of state revenue collection can be divided into two trends, fluctuating and increasing over the period of 2009 to 2016. The period from 2009 to 2012 was marked by variation in performance. Subsequently, state revenue collection increased steadily from 2013 to 2016, with the greatest growth occurring in 2016. Considering BSC

implementation, from 2009 to 2011 (before BSC implementation), state revenue collection fluctuated, with peak collection taking place in 2011. Meanwhile, after BSC implementation, there was a major decrease in 2012 followed by a slight decrease in 2013. From 2014 to 2016, Merak's state revenue collection displayed positive movement. The movement of state revenue collection in Tangerang CEO can likewise be classified into two trends. From 2009 to 2014, state revenue collection increased consistently. From 2015 to 2016, however, the pattern moved in another direction. With regard to BSC implementation, from 2009 to 2011 (before BSC implementation), state revenue collection experienced positive movement. After BSC implementation, the trend remained positive from 2012 to 2014. However, in the following two years (2015 and 2016), state revenue collection decreased.

Meanwhile, a fluctuating trend is also seen in state revenue collection at the CEO of Bogor. As seen in Figure 8.1, Bogor's state revenue collection reached its highest level in 2011 before falling in 2012. There was a tiny improvement in 2013 state revenue collection, but levels decreased again in 2014. Subsequently, in 2015 and 2016, Bogor customs and excise managed to increase its state revenue collection. Overall, the state revenue collection trend during 2009 to 2016 period was somewhat inconsistent, with the organisation's highest achievement in the year of 2011. With consideration of BSC implementation, from 2009 to 2011 (before BSC implementation), state revenue collection exhibited fluctuating movement. Meanwhile, for the period from 2012 to 2016 (after BSC implementation), the trend decreased somewhat from 2012 to 2014; state revenue collection then recovered in 2015 and 2016.

State revenue collection at the CEO of Bekasi experienced two major trends, the first from 2009 to 2013 and the second from 2014 to 2016. State revenue collection increased from 2009 to 2013 and reached its peak in 2013. In 2014, state revenue collection decreased to just over half that of the previous year's

collection, and the levels continued to decrease in 2015 and 2016. Considered together with BSC implementation, from 2009 to 2011 (before BSC implementation), the state revenue collection trend increased, while the period following BSC implementation displays two different patterns. The first one, in the period from 2012 to 2013, continued the positive trend of state revenue collection. The period from 2014 to 2016, however, yielded a considerable decrease of state revenue collection. In 2015, the state revenue collected was merely one-third of its 2014 total. In 2016, performance remained poor as shown by a slight decrease in movement compared to 2015.

For the Cikarang CEO, data are available only for 2015 and 2016 since the Cikarang customs and excise office was first established in 2015. From 2015 to 2016, the CEO of Cikarang increased its state revenue collection nearly fivefold. Turning to the Purwakarta customs and excise office, during the 2009 to 2016 period, the office succeeded in increasing its state revenue collection annually. The highest level of state revenue collection was in 2016, at nearly six times Purwakarta's 2009 contribution. In relation to BSC implementation, from 2009 to 2011 (before BSC implementation) the state revenue collection shows a gently increasing trend. This trend continued from 2012 to 2016 (after BSC implementation).

Overall, the Bandung customs and excise office's state revenue collection fluctuated from 2009 to 2016. Collection increased from 2009 to 2010 but decreased in 2011. A positive trend began during 2012 and 2013, but levels sank in 2014 and 2015. In 2016, collection levels increased, nearly reaching those of 2013. As regards BSC implementation, from 2009 to 2011 (before BSC implementation), state revenue collection in Bandung fluctuated. Likewise, for the period from 2012 to 2016 (after BSC implementation), state revenue collection levels were inconsistent. The trend was positive from 2012 to 2013, decreased in 2014 and 2015, and displayed positive movement in 2016.

8.6.2 Descriptive statistics of customer satisfaction indices

This section describes the customer satisfaction index achievements of the twelve participating organisations. The customer satisfaction index data cover the period from 2013 to 2016 as seen in Figure 8.2 below.

Figure 8.2 Customer satisfaction index results of the twelve customs and excise organisations
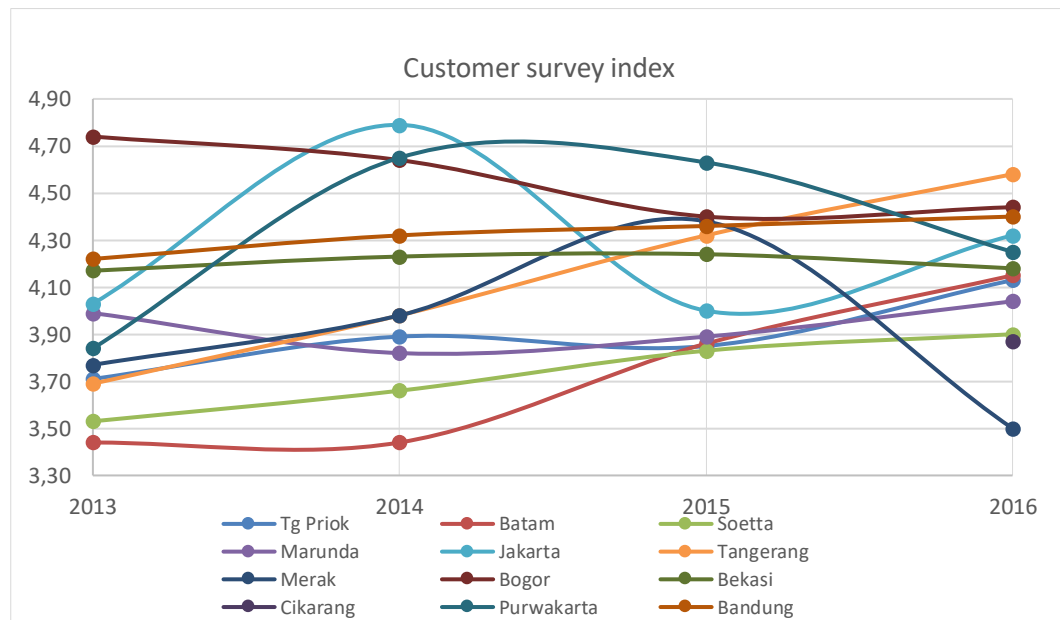
Figure 8.2 shows that, in general, the customer satisfaction index in the Customs and Excise MSO of Tanjung Prion fluctuated from 2013 to 2016. In 2015, the organisation's score was slightly lower (3.85) than in the previous year (3.89), with the greatest increase occurring in 2016 (4.13). Turning to the Batam MSO, the level of customer satisfaction from 2013 to 2016 grew steadily. Only in 2014 did the organisation score the same as in the previous year (3.44); after 2014, the trend continued to increase, reaching its highest point in 2016 (4.15). Similarly, the Soetta Main Service Office showed continuously improving customer satisfaction indices from 2013 to 2016 (3.53 to 3.90).

Turning to the smaller customs and excise offices, the results of the customer survey are varied; some offices improved consistently (such as the Tangerang and

Bandung CEOs), while some trends fluctuated (for example, those of the Merak and Bekasi CEOs). After experiencing a sizeable decrease in 2014 (3.99 to 3.82), the customer satisfaction index in the Marunda CEO improved significantly in 2015 and 2016, with the office's highest achievement in 2016 (3.99 to 4.04). Turning to the Jakarta CEO, the level of customer satisfaction fluctuated from 2013 to 2016; 2014 was the year in which the office achieved its highest customer satisfaction index (4.79). The level of satisfaction plummeted in 2015 (to 4.00). Then, in 2016, the level of customer satisfaction increased considerably (4.32). With regard to the Merak CEO, it showed a positive customer satisfaction index trend from 2013 to 2015 (3.77 to 4.38). However, in 2016, the customer satisfaction index decreased to its lowest level in the four-year period under consideration (3.50).

Meanwhile, the Tangerang CEO experienced a continuous positive trend in customer satisfaction index from 2013 to 2016, with scores growing from 3.69 to 4.58. Turning to the Bogor CEO, it experienced an overall negative trend during the 2013-2016 period. The CEO of Bogor started with a very high score in 2013 (4.74), slipping to 4.64 and 4.40 in the two subsequent years. However, in 2016, the Bogor CEO's customer satisfaction index increased to 4.44. With regard to the Bekasi CEO, Figure 8.2 shows an increasing trend from 2013 to 2015 (4.17 to 4.24). However, in the following year, the customer satisfaction index results decreased (to 4.18). In the period from 2013 to 2016, the Purwakarta CEO experienced ups and downs in its customer satisfaction index; at the beginning of the measurement period, there was a huge increase in the customer satisfaction index (from 3.84 in 2013 to 4.65 in 2014). However, drastic negative movement in the trend occurred during the 2015 to 2016 period (4.63 to 4.25). Lastly, like the Tangerang CEO, the Bandung CEO's customer satisfaction indices increased consistently from 2013 to 2016 (4.22 to 4.40).

8.7   Main data analysis

This study aims to investigate the impact of BSC implementation on CEOs' OP. Two tools were applied to analyse the data in this research: panel data regression models and growth curve models. The first approach used panel data regression analysis to evaluate the state revenue collection data, which was available from 2009 to 2016, thus covering both the period before (2009 to 2011) and after BSC implementation (2012 to 2016). The use of panel data regression analysis enabled the researcher to identify the presence of any differences in state revenue collection levels after the implementation of BSC across the twelve customs and excise organisations, thus determining how much the BSC contributed to the changes. The second approach used in the analysis was growth curve modelling, which was applied in the analysis of customer satisfaction index data. None of the twelve participating organisations could provide customer satisfaction indices from the period before the implementation of the BSC. Thus, the analysis focuses on customer satisfaction trends after implementation of the BSC.

8.7.1 Panel data regression model as analytical tools

Gujarati (2011, p. 293) explained that a panel data regression model is based on panel data, which are observations of individuals or units on the same cross-section (time) or over a particular length of time (periods). Baltagi (2013, pp. 6-8) suggested that a panel data regression model has at least seven advantages: first, panel data propose that individuals, organisations, states or countries are heterogeneous. Thus, panel data enable the researchers to control individual heterogeneity. Second, panel data regression provides more information with less collinearity amongst variables and greater freedom and data efficiency. Third, panel data handles the dynamics of data adjustment well. Fourth, panel data can better detect and measure effects that cannot be observed in pure cross-sectional or time series data. Fifth, panel data enables the user to develop and examine more complicated behavioural models than pure cross-sectional data and time series data can do. Sixth, micro panel data may reduce or omit bias resulting from aggregation over organisations or individuals. Seventh, macro panel data are

drawn from longer time series and therefore do not suffer from the problem of nonstandard distribution.

Based on the data, which combine cross-sectional and time series characteristics, the researcher applied panel data regression to examine the impact of BSC adoption on state revenue collection. This research also considers the study conducted by Maharani and Tampubolon (2016) in which panel data regression models were applied to examine the association of corporatisation with hospital performance. The range of data in the present study is from 2009 to 2016 (eight years); corresponding to BSC implementation, the data cover the period before implementation (2009 to 2011) and after implementation (2012 to 2016).

8.7.1.1 The process of panel data regression model analysis

There are two dependent variables, BSC implementation (BSC usage) and organisation size. A binary code was applied to represent BSC usage, where '1' indicates implementation and '0' the reverse. Meanwhile, for the size variable, '1' indicates a large organisation and '0' a small organisation.

The estimated model is as follows:

Fixed effects:

$Y_{it} = \beta_1 + \beta_2 BSC\ usage + \beta_3 Size + it$

$i = 1,2,3\ldots.12; t = 1,2\ldots.8$

Where Y is state revenue collection. The two subscripts on the variables, i representing the cross-sectional unit, and t, the time (Gujarati, 2011).

Random effects:

$Y_{it} = \beta_1 + \beta_2 BSC\ usage_{it} + \beta_3 Size_i + w_{it}$

$i = 1,2,3\ldots.12; t = 1,2\ldots.8$

Where Wit = εi + uit

The composite error term Wit has two components: εi representing the cross-sectional or individual specific error component and uit representing the combination of time series and cross-sectional error components (Gujarati, 2011).

Before running the model, the normality of the state revenue collection data was checked by comparing a histogram of the sample data to a normal probability curve. The histogram results, as shown in Appendix 10a, showed that the data on state revenue collection was not normally distributed. The researcher therefore used log command to normalise the data distribution, and the resulting histogram (see Appendix 10b) showed that the state revenue collection data had reached normal distribution. After normalising the data, the next step was to run panel data regression with fixed effects methods or random effects methods.

8.7.1.2 Panel data regression results

The results of the panel data regression are provided in Table 8.2. The table presents the results of both random effects and fixed effects models. From the table, we can also see the differences generated by fixed effects methods and random effects methods, where the time-invariant variable (size) was estimated in the random effects method but was omitted in the fixed effects method. From this perspective, the random effects model is more appropriate for estimating the proposed model (Gujarati, 2011).

Table 8.2 Fixed effects and random effects

Exogenous variable	Fixed effects	Random effects
BSC usage	0.41 (0.12) ‡	0.41 (0.12) ‡
Size	0 (omitted)	1.30 (1.47)

Note: Reported are coefficients (standard error). Significance: *10% or less; †5% or less; ‡1% or less.

In addition to comparing the fixed and random effects models, the researcher applied the Hausman test to help choose the better method. Based on the Hausman test statistics, the null hypothesis could not be rejected since the Prob>chi2 (0.8792) > 0.05. Hence, based on the results of both methods (fixed and random) and the Hausman test, it was determined that the random effects model was the most appropriate model for performing panel data regression analysis. Therefore, the results from the random methods were used. The dependent variables represent the measure of OP (state revenue collection), while the exogenous variables are BSC implementation (BSC usage) and organisation size (size). The results indicated that BSC implementation across the twelve CEOs had a significant and positive (0.41) effect on state revenue collection. With regard to the organisation size variable, despite the insignificance of the correlation, size indeed revealed a positive (1.3) correlation with state revenue collection.

8.7.2 Growth curve analysis

Panel data regression analysis could not be applied to analyse the customer satisfaction index data because the data did not cover the pre-implementation period. The data was available only from 2013 to 2016, while the starting year of BSC implementation at the individual level was 2012. Therefore, growth curve modelling using maximum likelihood estimation was applied to examine the trends in customer satisfaction levels over time (2013 to 2016) and to determine how BSC usage correlated with those trends.

The results of the growth curve modelling show that BSC implementation in all twelve organisations had a positive association with the customer satisfaction index (0.07 at $\rho < 0.05$) and a negative association with organisation size (-0.33 at $\rho < 0.1$). Table 8.3 provides detailed information on the growth curve modelling results.

Table 8.3 Growth Curve Modelling Results

CSIndex	Coefficient	Standard Error
Year	0.07	0.03**
Size	-0.33	0.17*

Prob > chi2 = 0.0142, Significance: *10% or less; **5% or less; ***1% or less

Figure 8.3 provides a visualisation of the shape of the year-by-year customer satisfaction index of the twelve customs and excise organisations. The growth curve shows increasing customer satisfaction indices during the period after BSC implementation.

Figure 8.3 Growth curve modelling of customer satisfaction index
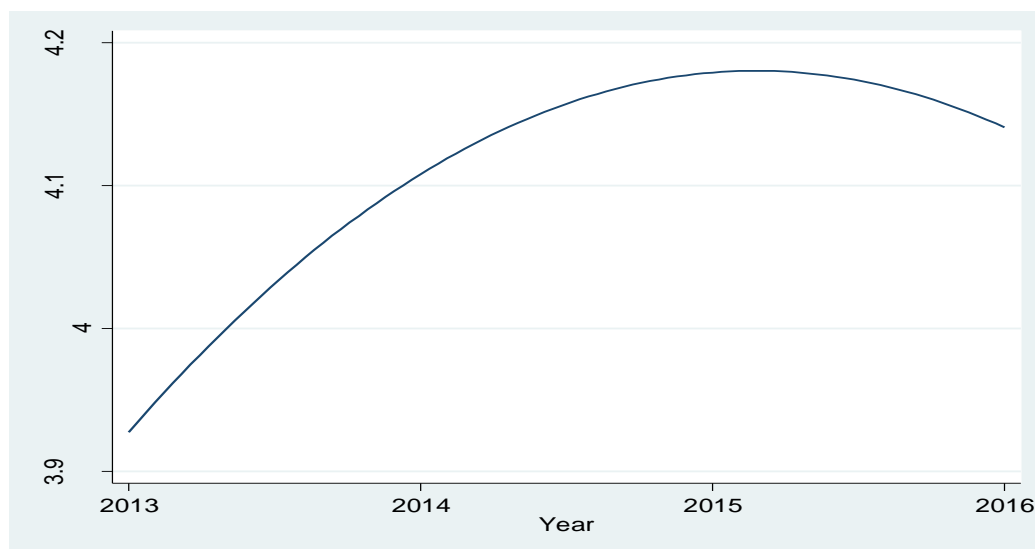
8.8 Hypothesis testing

This section explains the associations between the findings and the hypothesis proposed. Regarding OP, this study employed two measures as dependent variables of OP: state revenue collection and customer satisfaction index. With regard to panel data regression analysis, we report that BSC implementation across the twelve CEOs had a positive (0.41) and significant effect on state revenue collection. In terms of the organisation size variable, despite its insignificant correlation, larger size showed a positive association (1.30) with state revenue collection. Turning to growth curve modelling analysis, we report that BSC implementation across the twelve CEOs showed a positive and significant association (0.07) effect with customer satisfaction index. Larger size showed an insignificant and negative (-0.33) association with customer satisfaction index. Table 8.4 summarises the findings in correlation with the hypothesis.

Table 8.4 Hypothesis testing results

Research question	Hypothesis	Result
RQ6. How is BSC implementation associated with organisational performance?	**H7.** The i*mplementation of the BSC is positively associated with organisational performance.*	Implementation of the BSC has positive association with OP, as shown by means of both state revenue collection and customer satisfaction index.

8.9   Chapter summary

This is the final findings chapter in this thesis. It focused on analysing the association of BSC with organisational performance. The analysis in this chapter was based on the research question: How is BSC implementation associated with organisational performance? In the analysis process, the researcher used the STATA 14 statistical software package. Two analytical tools were applied: panel data regression modelling and growth curve modelling.

Panel data regression was used in order to evaluate the impact of implementing BSC during two different time periods: before and after BSC implementation. The dependent variable included in this method was state revenue collection. With regard to the analytical results, BSC implementation displayed a positive correlation with state revenue collection (0.41), which indicates that positive changes in state revenue collection resulted from the implementation of the BSC. Meanwhile, growth curve modelling has the ability to analyse longitudinal data, although the period of data availability did not include the period before BSC implementation. The growth curve analysis used data from customer satisfaction indices. Similar to the panel data regression results, the growth model analysis also

found that there is a positive association (0.07) between BSC implementation and customer satisfaction index. Thus, from these two analytical results, it can be concluded that the implementation of the BSC is positively related to OP. Further explanations of the findings in this chapter are offered in Chapter 9.

Chapter 9: Discussion of Empirical Findings

9.1 Introduction

This chapter discusses the findings from Chapters 6, 7 and 8 and relates them to both the theories and findings presented in previous studies as examined in the literature review (Chapter 3) and applied in the conceptual framework (Chapter 4).

In all, this chapter has four sections. It begins with the introduction section, followed by an overview of the research questions, hypotheses and results of the study as presented in Chapters 6, 7 and 8. The main discussion of the empirical findings follows, in accordance with the sequence of the research questions. The first discussion section covers BSC implementation as represented by the SFO principles. It also discusses the results of the investigation of the relationships of organisation size and employee roles with BSC implementation. The second discussion section analyses the correlations of the BSC with PSM and OC. This section also provides a discussion of the relationship between PSM and OC. The last part of the discussion offers an explanation of the findings from the investigation of the relationship between the BSC and OP. Finally, the chapter closes with a summary.

9.2 Overview of the research questions, hypotheses and main findings of the study

This study aimed to explore the implementation of balanced scorecard as a performance management system within public-sector organisations in Indonesia with a view to clarifying the nature of balanced scorecard practices and their relationship to organisational factors, organisational performance and employee behaviour. The need to explore the implementation of the BSC was noted by Hoque (2014, p. 49): 'Future studies can explore whether and how public-sector organisations in emerging economies have adopted the BSC framework to improve organisational effectiveness'.

Overall, this study examined the consequences of BSC implementation on organisation size, employee roles, OC, PSM and OP using data from twelve customs and excise organisations and 1,675 individual respondents in Indonesia. More detailed discussions of the findings of the present study are provided in the following sections. Table 9.1 compiles the research questions, hypotheses, results and interpretations of the results originating from Chapters 6, 7 and 8. The results shown in Table 9.1 are discussed further in the following sections.

Table 9.1 Hypothesis testing

Research questions	Hypothesis	Results	Interpretation of the results
RQ1. How do SFO principles relate to each other within implementation of the BSC?	H1. SFO principles correlate positively with each other within the framework of the BSC.	Supported. All latent variables showed a significant relationship at ρ <0.01 as follows: - β= 0.80 for strategy translation and strategy alignment, - β= 0.87 for strategy translation and strategy as everyone's everyday job, - β= 0.84 for strategy translation and strategy as a continuous process,	All five principles of SFO relate positively to one another in the context of BSC implementation.

		- β= 0.88 for strategy translation and leadership involvement, - β= 0.86 for strategy alignment and strategy as everyone's everyday job, - β= 0.68 for strategy alignment and strategy as a continuous process, - β= 0.67 for strategy alignment and leadership involvement, - β= 0.82 for strategy as everyone's everyday job and strategy as a continuous process, - β= 0.76 for strategy as everyone's everyday job and leadership involvement, and - β= 0.77 strategy as a continuous process and leadership involvement.	
RQ2. To what extent are organisational factors associated with the implementation of the BSC?	H2. The large organisation has more influence on the implementation of the BSC than the small organisation. H2a. The level of BSC strategy translation is higher for employees working in large organisations than for employees working in small organisations; H2b. The level of BSC strategy alignment is higher for employees working in large organisations than for employees working in small organisations; H2c. The level of BSC strategy becomes everyone's everyday job is greater for employees working in large organisations than for employees working in small organisations; H2d. The level of BSC strategy becomes a continuous process is greater among employees working in large organisations than among employees working in small organisations;	- Not supported. BSC strategy translation has a negative and significant relationship with employees working in large organisations (β= -0.25 at ρ <0.01); - Not supported. BSC strategy alignment has a negative and significant relationship with employees working in large organisations (β= -0.19 at ρ <0.01); - Not supported. BSC strategy as everyone's everyday job has a negative and significant relationship with employees working in large organisations (β= -0.21 at ρ <0.01); - Not supported. BSC strategy as a continuous process has a negative and significant relationship with employees working in large organisations (β= -0.24 at ρ <0.01); - Not supported. BSC leadership involvement has a negative and significant relationship with	- Employees working in large organisations are likely to experience a lower level of BSC strategy translation. - Employees working in large organisations are likely to experience a lower level of BSC strategy alignment. - Employees working in large organisations are likely to experience a lower level of BSC strategy as everyone's everyday job. - Employees working in large organisations are likely to experience a lower level of BSC strategy as a continuous process. - Employees working in large organisations are likely to experience a lower level of BSC leadership involvement.

H2e. The level of leadership involvement in BSC is higher in large organisations than in small organisations.	employees working in large organisations (β= -0.16 at ρ <0.01).	
H3. Employees holding strategic roles have more influence on BSC implementation than other employees. H3a. The level of BSC strategy translation is higher among employees holding strategic roles than among other employees; H3b. The level of BSC strategy alignment is higher among employees holding strategic roles than among other employees; H3c. The level of BSC strategy as everyone's everyday job is higher among employees holding strategic roles than among other employees; H3d. The level of BSC strategy as a continuous process is higher among employees holding strategic roles than among other employees; H3e. The level of BSC leadership involvement is higher among employees holding strategic roles than among other employees.	- Supported. Strategy translation has a positive and significant relationship with strategic employee roles (β= 0.19 at ρ <0.01); - Supported. Strategy alignment has a positive and significant relationship with strategic employee roles (β= 0.10 at ρ <0.01); - Supported. Strategy as everyone's everyday job has a positive and significant relationship with strategic employee roles (β= 0.11 at ρ <0.01); - Not significant. Strategy as a continuous process has a negative and insignificant relationship with strategic employee roles (β= 0.02 at ρ >0.1); - Supported. Leadership involvement has a positive and significant relationship with strategic employee roles (β= 0.10 at ρ <0.01).	- Employees working in strategic positions were likely to experience a higher level of strategy translation. - Employees working in strategic positions were likely to experience a higher level of strategy alignment. - Employees working in strategic positions were likely to experience a higher level of strategy as everyone's everyday job. - Employees working in strategic positions were likely to experience a higher level of leadership involvement.

RQ3. Do the SFO principles within the implementation of the BSC have a relationship with OC?	H4. The SFO principles within the implementation of the BSC are positively associated with organizational commitment. H4a. The better the strategy translation through BSC implementation, the more employees' organisational commitment will increase; H4b. The better the strategy alignment through BSC implementation, the more employees' organisational commitment will increase; H4c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' organisational commitment will increase; H4d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' organisational commitment will increase; H4e. The better the leadership involvement through BSC implementation, the more employees' organisational commitment will increase.	- Supported. Strategy translation has a negative and significant relationship with OC (β=- 0.36 at ρ <0.05); - Not significant. Strategy alignment has a positive and insignificant relationship with OC (β= 0.09 at ρ >0.1); - Not significant. Strategy as everyone's everyday job has a positive and insignificant relationship with OC (β= 0.08 at ρ >0.1); - Supported. Strategy as a continuous process has a positive and significant relationship with OC (β= 0.33 at ρ <0.01); - Supported. Leadership involvement has a positive and significant relationship with OC (β= 0.63 at ρ <0.01).	- Strategy translation within the BSC framework had a negative association with the OC of the customs and excise employees. - Strategy as a continuous process within the BSC framework had a positive association with the OC of the customs and excise employees. - Leadership involvement within the BSC framework had a positive association with the OC of the customs and excise employees.
RQ4. Do the SFO principles within the implementation of the BSC have a relationship with PSM?	H5. The SFO principles within the implementation of the BSC are positively associated with public service motivation. H5a. The better the strategy translation through BSC implementation, the more employees' public service motivation will increase; H5b. The better the strategy alignment through BSC implementation, the more employees' public service motivation will increase; H5c. The better the realisation of strategy as everyone's everyday job through BSC implementation, the more employees' public service motivation will increase;	- Supported. Strategy translation has a positive and significant relationship with PSM (β= 0.49 at ρ <0.05); - Not significant. Strategy alignment has a negative and insignificant relationship with PSM (β= -0.04 at ρ >0.1); - Supported. Strategy as everyone's everyday job has a positive and significant relationship with PSM (β= 0.35 at ρ <0.01);	- Strategy translation within the BSC framework was positively associated with the PSM of the customs and excise employees. - Strategy as everyone's everyday job within the BSC framework was positively

	H5d. The better the realisation of strategy as a continuous process through BSC implementation, the more employees' public service motivation will increase; H5e. The better the leadership involvement through BSC implementation, the more employees' public service motivation will increase.	- Supported. Strategy as a continuous process has a negative and significant relationship with PSM (β= -0.26 at ρ <0.01); - Not significant. Leadership involvement has a negative and insignificant relationship with PSM (β= -0.01 at ρ >0.01).	associated with the PSM of the customs and excise employees. - Strategy as a continuous process within the BSC framework was negatively associated with the PSM of the customs and excise employees.
RQ5. How does public service motivation relate to organisation commitment within an organisation implementing the BSC?	H6. Public service motivation is positively associated with organisation commitment within organisations that apply the BSC as their performance management systems.	Supported. PSM is positively associated with OC within organisations that apply the BSC (β= 0.13 at ρ <0.01).	PSM is positively associated with OC within organisations implementing the BSC.
RQ6. How is BSC implementation associated with organisational performance?	H7. The implementation of the BSC is positively associated with organisational performance.	Supported. The implementation of the BSC is positively correlated with state revenue collection (β= 0.41 at ρ <0.01) and is positively correlated with the customer satisfaction index (β= 0.07 at ρ <0.01).	The use of the BSC has a positive association with OP in terms of state revenue collection and customer satisfaction index.

9.3 Discussion of the findings

RQ1. How do SFO principles relate to each other within implementation of the BSC?

Previous studies have revealed that the BSC concept may be applied in different ways (see Speckbacher et al. 2003; Braam et al. 2007; Modell 2009; Madsen 2011). One potential explanation is that the BSC allows for interpretation in practice, which makes it appealing to many potential users in diverse settings (Madsen and Stenheim 2015). However, Kaplan and Norton (2001c) articulated that successful implementation of the BSC should employ the SFO principles. Following Kaplan and Norton (2001c), the SFO principles were used in this study to evaluate BSC implementation. However, before applying them to the model, the SFO principles were tested to ensure their relevance to the samples collected by the researcher. The analysis results confirmed that the twelve responding organisations had adopted the BSC in conformance with the SFO principles. Thus, the results supported Hypothesis H1, which stated that SFO principles correlate positively with each other within the implementation of the BSC. From this finding, it can be asserted that SFO principles apply to the customs and excise organisations.

The results of the present study support Kaplan and Norton's (2001c) articulation of the importance of the SFO principles for successful implementation of the BSC. The present study also echoes the conclusions reached by de Geuser et al. (2009, p. 117) in their study on the effect of the BSC on company performance. In their conclusion, de Geuser et al. stated that the BSC's contribution to performance depends on three of the SFO principles: **strategy translation, strategy as a continuous process** and **strategy alignment**. However, in addition to these, the present study augments the current body of knowledge with at least three new components in the following areas: the specification of organisational setting, the inclusion of research participants at all organisational levels, and the clarity of the stage or level of BSC implementation.

In terms of the organisational settings of the research, this study was conducted in twelve customs and excise organisations that vary in size. Those twelve organisations are public-sector organisations (three large and nine small) in Indonesia, a country with a developing economy. In this sense, the present study responds to Madsen and Stenheim's (2015) call for attention to the use of BSC in different types of organisations, particularly those of different sizes. In terms of research participants, unlike the study by de Geuser et al. (2009), which involved only managers, the present study involved employees from all levels of the organisations studied. It is anticipated that the results drawn from the present study are therefore more comprehensive in evaluating diffusion of the BSC within the responding organisations. In terms of the clarity of the stage or level of BSC implementation, de Geuser et al. (2009) stated that they did not have information regarding the stage of development of the BSC in the organisations studied. Following Malmi (2001), who suggested that the benefits and success of the BSC implementation can be expected to differ depending on how the BSC is applied, this study selected organisations based on their stage of BSC developments. Although the participating organisations varied in terms of the starting points of implementation (with large organisations beginning in 2009 and small organisations beginning in 2010), they had all implemented the BSC at the individual employee level since 2012; in fact, they had adopted the BSC fully since that time. In that sense, the results of the present study may offer a fuller representation of BSC implementation. In other words, all twelve responding organisations have fully implemented the BSC as their performance management system. The stage or level of implementation is an important aspect to consider, because it is believed that there is a relationship between how the BSC is used and the subsequent performance effects (Braam and Nijssen 2004; Papalexandris et al. 2004). To reach a detailed understanding of the BSC's implementation, the findings and discussions of the five principles of strategy-focused organisations follow.

With regards to **strategy translation**, further analysis showed a positive and significant covariance of **strategy translation** with **strategy alignment**, **strategy as everyone's everyday job**, **strategy as a continuous process**, and **leadership involvement**. This result may have two important implications. First is the theoretical perspective, according to which the value of coefficient correlation indicates that **strategy translation** had strong associations with each of the other SFO principles. Second, with regard to the practical perspective, the present study revealed that the employees in responding organisations were likely to agree that the BSC had contributed effectively to the dissemination of strategy within the organisation. As this study was populated by employees from all levels of their organisations, excluding organisation heads, it may be reasonable to conclude that the BSC is an effective means of strategy communication as acknowledged not only by upper-echelon employees but also by staff. Regarding strategy communication, then, the present study coincides with the study by Papalexandris et al. (2004), who concluded that the BSC is supportive when applied as a framework and a guideline for successful strategy communication.

Turning to **strategy alignment**, the further analysis using CFA showed positive and significant covariance of **strategy alignment** with **strategy translation**, **strategy as everyone's everyday job**, **strategy as a continuous process**, and **leadership involvement**. This result may have two essential implications. From the theoretical point of view, the coefficient correlations showed that **strategy alignment** has a strong association with each of other SFO principles. Meanwhile, from the practical standpoint, employees in customs and excise organisations were likely to agree that the BSC had effectively facilitated the alignment of strategy within the organisation. This finding is in line with de Geuser et al. (2009) and Ayoup et al. (2016). However, unlike de Geuser et al. (2009) and Ayoup et al. (2016), whose studies involved only employees in managerial positions, the present study included participants ranging from staff levels to those one level under the heads

of their organisations. Therefore, the present study may provide a more comprehensive picture of how effectively the BSC assists in **strategy alignment**, create synergies within organisations. From that perspective, the role of the the BSC in helping align organisational strategy with lower-level units may be acknowledged by all employees within the organisation.

With regards to **strategy as everyone's everyday job**, the further analysis using CFA revealed positive and significant covariance of **strategy as everyone's everyday job** with **strategy translation**, **strategy alignment**, **strategy as a continuous process** and **leadership involvement**. This result may contribute two essential implications. From the theoretical perspective, the coefficient correlations showed that **strategy as everyone's everyday job** has a strong association with each of other SFO principles. Meanwhile, from the practical perspective, responding employees of customs and excise organisations were likely to agree that the BSC had contributed effectively to increasing their awareness of strategy, whose success requires all employees' active involvement. In other words, it can be said that employees from all organisational levels are involved in activities to help implement organisational strategies. This finding supports Park and Huber's (2007) position that participation from employees of all organisational levels is an essential factor in the successful measurement and management of performance using the BSC.

Concerning **strategy as a continuous process**, the further analysis using CFA showed positive and significant covariance with **strategy translation**, **strategy alignment**, **strategy as everyone's everyday job**, and **leadership involvement**. This result may contributed two significant implications. From the theoretical perspective, the coefficient correlations indicate that **strategy as a continuous process** has a strong association with each of the other SFO principles. Meanwhile, from a practical standpoint, responding employees of customs and excise organisations agreed that the BSC had contributed effectively to influence

strategic practices on a continuous basis. This finding is consistent with de Geuser et al. (2009). However, the current study differs from that of de Geuser et al. (2009), which involved only managers. The present study involved employees at all levels of the organisation. In that sense, the results of this study lead to the conclusion that the role of the BSC in supporting continuous strategic practices is acknowledged not only by upper-echelon employees but also by individuals at the lower echelons and staff levels.

With respect to **leadership involvement**, the further analysis using CFA showed a positive and significant covariance with **strategy translation**, **strategy alignment**, **strategy as everyone's everyday job**, and **strategy as a continuous process**. From the theoretical point of view, the coefficient correlations indicate that **leadership involvement** has a strong association with each of the other SFO principles. Meanwhile, from the practical perspective, responding employees of customs and excise organisations agreed that management-level employees had shown great support in implementing the BSC within their organisations. Several previous studies have expressed the same findings regarding the importance of leadership roles; Chan (2004), researching municipal governments in the USA and Canada, highlighted top management commitment and leadership as a necessary factor for implementing the BSC. In a similar vein, Fernandes et al. (2006), who studied the implementation of the the BSC in a small-to-medium enterprise in the UK, concluded that BSC implementation requires strong support from top management. Wisniewski and Olaffson (2004) also reached similar results and proposed the importance of managerial commitment in BSC implementation in public-sector organisations. Likewise, Park and Huber (2007, p. 16) mentioned that successful implementation of the BSC relies heavily on the leadership and support of senior management levels.

RQ2. To what extent are organisational factors associated with the implementation of BSC?

After confirming the SFO principles as the framework for BSC implementation, the next step was to discuss to what extent organisation size and employees' roles relate to BSC implementation. Following the confirmation of the SFO model in the responding organisations, the researcher evaluated the relationships between the BSC as represented by SFO principles and organisation size and employee roles.

1. The relationship between BSC implementation and organisation size

Compared to other previous studies examining the relationship between organisation size and the implementation of the BSC (Hoque and James 2002; Speckbacher et al. 2003), the present study utilises an expanded definition of BSC implementation in that it follows SFO principles (Kaplan and Norton, 2001). As such, this study can identify more specifics in each area of BSC implementation. The results showed that the size of the organisation had a significant and negative association with all five SFO principles. This indicated that large organisations are less likely to have fully implemented the BSC. This finding is not in line with Hoque and James's work (2000), which suggested that larger organisations make more complete use of the BSC. This finding also disagrees with the results of the study by Speckbacher et al. (2003, p. 381), which showed that larger companies are more likely to have fully implemented the BSC. This finding is close to that of Ford (2000), who posited that small size is often viewed as advantageous in BSC adaptation. Furthermore, Ford explained that the relative lack of structure in small organisations is thought to reduce disinterest and therefore facilitate mobility.

An ineffective internalization process leads to a low-level understanding of BSC implementation, which might explain why the BSC is less likely to be adopted in large organisations. The Customs and Excise Headquarters, which acts as the coordinator of the customs and excise organisations, should be aware of this finding so that effective strategies can be applied in large organisations. One possible solution to the problem of BSC implementation in large organisations would be to maximise the strategy map's role in communicating strategy. The

strategy map facilitates better top-down communication, which tends to increase customs and excise employees' understanding and awareness of strategy and allows for better execution and measurement of strategy (Scholey 2005, p. 18). Another possible solution is for decision-makers to differentiate the internalisation strategy in the two types of organisations; there exists a possibility that the method works effectively in small organisations but not in large organisations.

To determine how organisation size relates to BSC implementation, the findings and discussions regarding **strategy translation**, **strategy alignment**, **strategy as everyone's everyday job**, **strategy as a continuous process** and **leadership involvement** are presented next. With regard to **strategy translation**, the finding indicates that employees working in large public-sector organisations were likely to experience a lower level of **strategy translation** through the BSC. This result thus contrasts with Hypothesis H2a, which stated that the level of BSC strategy translation is higher for employees working in large organisations than for employees working in small organisations. One possible explanation for this finding is the fact that a large organisation has more layers of organisational structures than a small organisation, making it harder for **strategy translation** to take place.

With respect to **strategy alignment**, this study found that employees working in large organisations are likely to experience a lower level of **strategy alignment** than employees working in small organisations. Therefore, this result did not support Hypothesis H2b, which predicted that the level of BSC strategy alignment would be higher for employees working in large organisations than for employees working in small organisations. Small organisations tend to be more flexible with less bureaucracy, less rigidity in decision-making and quicker responses to new opportunities and threats; consequently, they may offer more supportive work environments than large organisations (Kuratko et al. 2001).

Turning to **strategy as everyone's everyday job**, this study revealed that employees working in large organisations were likely to experience a lower level of participation in strategy execution than employees working in small organisations. Therefore, the result did not match the expectation stated in Hypothesis H2c, which was that the extent to which BSC strategy becomes everyone's everyday job would be greater for employees working in large organisations than for employees working in small organisations. Following Kaplan and Norton (2001, p. 13) who stated that **strategy became everyone's everyday job** when everyone understood strategy and was encouraged to execute it, the results of this study may indicate that the BSC implementation in a small organisation can be more easily implemented by all employees because they have a deeper understanding of their organisation's strategies.

With respect to **strategy as a continuous process**, this study discovered that employees working in large organisations were likely to experience a lower level of strategy as a continuous process than employees working in small organisations. Thus, the results did not support Hypothesis H2d, which predicted that the extent to which BSC strategy becomes a continuous process would be greater among employees working in large organisations than among employees working in small organisations. Thus, this result may indicate that strategizing as a continuous process is more readily accomplished in small organisations than in large organisations.

With respect to **leadership involvement**, we found that employees working in large organisations were likely to experience a lower level of BSC **leadership involvement**. Hence, the results did not support Hypothesis H2e, which predicted that the level of leadership involvement in BSC would be higher in large organisations than in small organisations. Thus, the finding indicates that upper-echelon employees in large organisations were not more effective in leading and

mobilising the use of BSC within their units than were their peers in small organisations.

2. The relationship between BSC implementation and employee roles

The results showed holding a strategic role had a positive and significant relationship with four of the five SFO principles: **strategy translation**, **strategy alignment**, **strategy as everyone's everyday job** and **leadership involvement**. Although the extent to which **strategy as a continuous process** related to holding a strategic role was not significant, the relationship was positive. Therefore, it can be said that employees holding strategic roles within the organisations studied were likely to implement the BSC.

This result resonates with Kaplan and Norton's (1996b, p. 76) explanation that managers ensure that employees at all levels of an organisation understand long-term strategy and that both departmental and individual objectives are aligned with it. Regarding the role of strategizing within the organisation, this finding is consistent with a study by Mantere (2005, cited in Jarzabkowski et al. 2007), who defined strategists as top, middle and operational managers and project managers.

The next part of this section discusses the results and further explores the association between employee roles and BSC implementation using SFO principles.

In terms of **strategy translation**, this study discovered that it had a positive and significant relationship with holding a strategic role. This result indicated that employees holding strategic roles in customs and excise organisations were likely to experience a higher level of **strategy translation**. Thus, the result supported Hypothesis H3a, which stated that the level of BSC strategy translation is higher among employees holding strategic roles than among other employees. One possible cause for this finding is that employees who hold strategic positions may

be more aware of organisational strategies and objectives given that, together with the head of the organisation, they may contribute to formulating strategy. In that sense, this result may show that, at this stage, customs and excise employees with more knowledge about organisational objectives and strategies are more encouraged to adopt organisational strategy in their individual scorecards.

With respect to **strategy alignment**, the study revealed that holding a strategic role has a positive and significant relationship with **strategy alignment**, that is, to experience a higher level of **strategy alignment**. Therefore, the result supported Hypothesis H3b, which stated that the level of BSC strategy alignment is higher among employees holding strategic roles than among other employees. Following the definition of horizontal and vertical alignment proposed by Kathuria et al. (2007), this result may indicate that employees holding strategic roles tend to align their strategies with both organisational strategies and their peers' strategies. In other words, it is the managers (employees working in strategic positions) in customs and excise organisations who play an important role in aligning organisational objectives.

Turning to **strategy as everyone's everyday job**, this study found that holding a strategic role had a positive and significant relationship with **strategy as everyone's everyday job**. Thus, the result supported Hypothesis H3c, which stated that the level of implementation of the BSC strategy as everyone's everyday job is higher among employees holding strategic roles than among other employees. Following Kaplan and Norton's (2001c, p. 13) explanation of how **strategy becomes everyone's everyday job**, this finding may indicate that employees holding strategic positions have a better understanding of organisational strategy. This may also explain the finding that employees working in strategic positions concern themselves more with strategic objectives.

With regard to **strategy as a continuous process**, we discovered that holding strategic role had a positive and insignificant relationship with **strategy as a continuous process**. Hence, the result did not support Hypothesis H3d, which stated that the level of BSC strategy as a continuous process is higher among employees holding strategic roles than among other employees. Despite its insignificance, holding a strategic role did show a positive relationship with experiencing **strategy as a continuous process.** This finding may reflect that holding a strategic role is not an essential factor determining whether employees in the customs and excise organisations continuously monitor and improve organisational and unit strategies.

Turning to **leadership involvement**, the finding was that holding a strategic role has a positive and significant relationship with **leadership involvement**. Thus, the result supported Hypothesis H3e, which stated that the level of BSC leadership involvement is higher among employees holding strategic roles than among other employees. This result indicated that employees holding strategic positions were likely to become involved in BSC implementation. In relation to the literature, the finding is in line with previous studies which suggest that top-level management commitment is one of the most influential factors in the successful implementation of BSC (see for instance Chan 2004; Park and Huber 2007).

RQ3. Do the SFO principles within the implementation of the BSC have a relationship with organisational commitment?

Overall, examining the relationship between the SFO principles and OC showed three out of five BSC determinants—**strategy translation**, **strategy as a continuous process** and **leadership involvement**—to have a significant relationship with OC. The **strategy alignment** and **strategy as everyone's everyday job** variables did not demonstrate a significant relationship with OC.

With respect to **strategy translation**, the study revealed a negative and significant relationship with OC. Thus, Hypothesis H4a, which stated that the better the

strategy translation through BSC implementation, the more employees' organisational commitment will increase, was not supported. In other words, the present study revealed that a better understanding of organisational strategic objectives is associated with lower OC. This contrasts with Kaplan and Norton's (1996b, p. 80) suggestion that better understanding of the organisation's long-term strategic goals encourages a stronger commitment to achieving those goals. One possible reason for this is that employees understood organisational strategies but found that the strategies were not relevant to their jobs. In this case, the solution to this issue may be raising employees' awareness of the need to prioritise the organisation itself. Another possible cause is that employees were not happy with the process of the translation of the organisation's strategic objectives. This could occur for several reasons: the strategy map internalisation process may not have been effective, the organisational KPIs may not have been relevant to employees' KPIs, or the KPI targets for subordinates may have been higher than the coordinators' targets. In this regard, it is worth noting Camilleri and van der Heijden's (2007, p. 245) suggestion that appropriate levels of OC among employees facilitates the change management process and ensures its successful implementation.

Turning to **strategy alignment**, the results revealed a positive and insignificant relationship with OC. Thus, the finding did not support Hypothesis H4b, which predicted that the better the strategy alignment through BSC implementation, the more employees' organisational commitment would increase. Despite their insignificance, **strategy alignment** and **strategy as everyone's everyday job** did both show a positive association with OC. Several factors may have contributed to this; it may be that key performance indicators were not cascaded proportionately or that key performance indicators between employees at the same level were not well aligned. During the early process of setting up employees' key performance indicators, performance managers in each organisation may wish to hold forums or focus group discussion sessions during which individual divisions

or sections meet to help ensure that vertical alignment and horizontal alignment function well.

Regarding **strategy as everyone's everyday job**, the study found a positive and insignificant relationship with OC. Thus, the finding did not support Hypothesis H4c, which predicted that the better the realisation of strategy as everyone's everyday job, the more employees' organisational commitment would increase. Though the association was insignificant, **strategy as everyone's everyday job** did show a positive association with OC. It appears that, in terms of creating strategy awareness, the BSC process needs to be more effectively delivered in order to help enhance the level of employees' understanding and participation in advancing organisational strategies. As knowledge about organisational strategies increases, employees' active participation increases commitment (Molina et al. 2014).

The present study discovered that **strategy as a continuous process** has a positive and significant relationship with OC. Thus, Hypothesis H4d, which stated that the better the realisation of strategy as a continuous process, the more employees' organisational commitment will increase, was supported. This finding can be interpreted as indicating that strategy as a continuous process within the organisation is associated with higher OC among employees. This may be because BSC implementation facilitates employees' understanding of the organisational strategic objectives and even gives them the opportunity to involve themselves in continuous strategizing. The finding is consistent with Kaplan and Norton (1996b , p. 80), who highlighted that including a large number of participants in the BSC process takes longer but offers several advantages: 'Information from a larger number of managers is incorporated into the internal objectives; the managers gain a better understanding of the company's long-term strategic goals, and such broad participation shapes a stronger commitment to achieving those goals.' However, unlike Kaplan and Norton (1996), who refer explicitly to managers, participation in BSC implementation within the organisations involved in the

present study was extended to all employees. In that sense, following Kaplan's (1996) logic, the continuous process of strategizing may succeed in building stronger commitment among all employees in customs and excise organisations.

Turning to **leadership involvement**, the results revealed that **leadership involvement** has a positive and significant relationship with OC. Thus, the results supported Hypothesis H4e, which stated that the better the leadership involvement in BSC implementation, the more employees' organisational commitment will increase. This finding illustrated that greater top management support of the development of BSC is related to higher levels of OC among employees. Several potential explanations might account for this finding. The first possibility is that the involvement of higher-level employees in the BSC implementation process has been positive and that they led the process well; another is that the employees recognised their superiors' efforts, which in the end created stronger OC among the employees. This possibility would support Kaplan and Norton's (2001) emphasis that leadership roles in the BSC process start with translating the strategy into linked strategic objectives on a strategy map and then using the map and the accompanying scorecard interactively.

RQ4. Do the SFO principles within the implementation of the BSC have a relationship with public service motivation?

The relationship between PSM and the BSC as represented by the SFO principles was found to be mixed. Overall, the results of examining the SFO principles with PSM showed that three of the five BSC determinants—**strategy translation**, **strategy as everyone's everyday job** and **strategy as a continuous process**— showed a significant relationship with PSM, whereas **strategy alignment** and **leadership involvement** did not. The findings of these associations are discussed here with respect to the individual SFO principles.

With regards to **strategy translation**, the results revealed that **strategy translation** has a positive and significant relationship with PSM. This finding therefore supported Hypothesis H5a, which stated that the better the **strategy translation** through BSC implementation, the more employees' PSM will increase. The finding indicated that employees are more motivated when strategy is translated and communicated effectively to all employees, confirming Malina and Selto's (2001, p. 49) assertion that when elements of BSC are well designed and effectively communicated, the BSC appears to motivate and influence lower-level managers to work towards company strategy. However, since the samples for the present study were derived from employees across all levels within the organisation, this research is able to conclude more generally that the BSC motivated customs and excise employees across all levels of the organisation.

Turning to **strategy alignment**, the study found that **strategy alignment** has a negative and insignificant relationship with PSM. Thus, the result did not support Hypothesis H5b, which stated that the better the **strategy alignment** through BSC implementation, the more PSM will increase. This finding showed that aligning strategy did not enhance employees' PSM; in fact, it decreased it. This finding contrasts with Kaplan and Norton's (2004, p. 62) statement that alignment may create intrinsic and extrinsic motivation.

With respect to **strategy as everyone's everyday job**, the study revealed that **strategy as everyone's everyday job** has a negative and significant relationship with PSM. Thus, the result did not support Hypothesis H5c, which predicted that the better the implementation of **strategy as everyone's everyday job** through BSC implementation, the more PSM would increase. The finding revealed that **strategy as everyone's everyday job** decreased the level of PSM. A possible solution for this issue might be improving performance dialogue between direct supervisors and employees. The researcher anticipates that doing so would reach employees, increasing their strategy awareness in ways that would contribute to the success of the strategy, as suggested by Kaplan and Norton (2001, p. 151).

Turning to **strategy as a continuous process**, this study discovered that **strategy as a continuous process** has a negative and significant relationship with PSM. Thus, the result did not support Hypothesis H5d, which predicted that the better the implementation of **strategy as a continuous process** through BSC implementation, the more PSM would increase. Rather, the finding revealed that the more strategy becomes a continuous process within the organisation, the lower PSM becomes among employees. One possible explanation for this finding is that employees found the performance report system procedure difficult to understand. Another plausible reason is that employees' competence development expectations were not clearly aligned with organisational strategy. This finding should be noted by decision makers in the organisations given that PSM is proven to be a moderately important predictor of OP (Brewer and Shelden 2000).

Turning to **leadership involvement**, the study discovered that **leadership involvement** has a negative and insignificant relationship with PSM. Thus, the result did not support Hypothesis H5e, which predicted that the better the **leadership involvement** in BSC implementation, the more employees' PSM would increase. Our finding in this regard may reflect an inability on the part of leaders (managers) to enable employees to clearly identify the results of their efforts and to provide them with adequate information as to how well they were doing in their jobs (Camilleri 2004, p. 274). This finding is somewhat unexpected; as highlighted by Kaplan and Norton (2001c, p. 155), **leadership involvement** is the most important element in the successful implementation of the BSC. Furthermore, Kaplan and Norton (2001c, p. 155) articulated that the ownership and active involvement of the executive team are needed to lead change and strategy implementation.

RQ5. How does public service motivation relate to organisation commitment within an organisation applying the BSC?

The findings from the SEM analysis shows that PSM has a positive and significant relationship with OC. Thus, Hypothesis H6, which stated that PSM is positively associated with OC within an organisation applying the BSC was supported. This finding is consistent with the results of research conducted by Perry and Wise (1990, p. 371); Crewson (1997); Taylor (2008); Kim (2011); and Caillier (2015). This finding indicates that within the DGCE organisations, which have adopted the BSC as their PMS, PSM reinforces the level of OC. In the context of BSC implementation, the cascading of organisational goals into individual goals helps employees to clearly understand their goals. Following Camilleri (2007), clear employee goals enhance the level of PSM, which in turn increases levels of organisation commitment. The decision makers who are responsible for developing the BSC within the customs and excise organisations should be aware of this relationship, because both PSM and OC are important factors that may affect OP in public-sector organisations (Crewson 1997, p. 508; Kim 2004).

RQ6. How is BSC implementation associated with organisational performance?

In contrast to the previous discussion sections, in which BSC implementation data was derived from the individual employee level through research questionnaires, this research question was examined at the organisational level using longitudinal data attained from the responding organisations. Two analytical tools were applied to the analysis: panel data regression model analysis for the state revenue collection variable and growth curve modelling for the customer satisfaction index variable. The present study found BSC implementation to have a positive and significant relationship with both parameters. Thus, Hypothesis H7, which stated that the implementation of the BSC as a PMS associates positively with OP, was supported.

When comparing these results with those of previous studies, we note that our finding is consistent with the study in Australian manufacturing firms conducted by Hoque and James (2000), who concluded that BSC usage is associated with

higher OP. Another similar finding resulted from a study by Davis and Albright (2004) in a banking organisation located in the south-eastern United States. The authors concluded that the BSC can be used to improve financial performance. In a similar vein, Braam and Nijssen (2004), who studied BSC usage in Dutch companies, pointed out that BSC implementation that is aligned with company strategy positively influences overall company performance. Likewise, de Geuser et al. (2009), who studied whether the BSC adds value to companies based on survey data from 24 European companies, also found that the BSC has a positive impact on OP. However, a study of the BSC in United States financial services firms by Ittner et al. (2003) yielded different results. Ittner et al. (2003, p. 735) found that extensive use of the BSC is negatively associated with companies' return on assets (ROA).

Although the present study shared a similar aim with previous studies, namely to examine the association between BSC implementation and OP, it differs from previous research (Hoque and James 2000; Braam and Nijssen 2004; Davis and Albright 2004; de Geuser et al. 2009) in several respects. It is noteworthy that this study differs in at least four aspects, perhaps thus contributing to the existing literature. First, the present study was conducted in public-sector organisations of an emerging economy while previous studies were conducted in private companies in countries with advanced economies. Second, the present study employed survey methods that included the representative participation of employees from all levels of management. Previous studies have involved solely employees at the executive or managerial levels. Third, the stage or level of BSC implementation is acknowledged in this study; in fact, it was one of the criteria for the selection of the responding organisations. Fourth, OP was represented by two variables using longitudinal data. The use of the longitudinal data enabled the researcher to analyse the BSC's potential contribution to changes in OP because it reflected OP both before and after the period of BSC implementation, where

previous researchers have employed only cross-sectional data or perceived performance measures.

Based on the above, it seems reasonable to suggest that the present study serves as the first attempt to provide empirical evidence of a BSC-OP association within public-sector organisations involving participation from all organisational levels and employing two variables that directly represent the organisations' strategic objectives.

9.4 Chapter summary

This chapter provides a discussion of the results of the quantitative findings revealed in Chapters 6, 7 and 8. This study presents the first empirical evidence regarding the association between BSC and organisation size, employee roles, OC, PSM and OP within the context of public-sector organisations in a country with an emerging economy.

The study, in which 1675 employees from 12 customs and excise organisations participated, generated findings that were further discussed in this chapter. Of the 23 hypotheses tested in total, the results show that 13 hypotheses were supported and 10 hypotheses were not supported. Overall, the responding organisations showed that they had adopted the SFO principles in their implementation of the BSC. However, the findings emerging from this study indicate that the quality of BSC implementation needs to be improved to maximise its contribution to the responding organisations. One example supporting this conclusion is the finding that small organisations were more likely to properly implement BSC. This finding contradicted our initial expectation that large organisations would be more likely to implement the BSC due to the BSC's renown for facilitating the communication of strategies within an organisation. Another such example concerns the relationship between translation of the organisational strategy using the BSC framework and both OC and PSM. The results of this study were mixed; strategy

translation displayed a negative association with OC and a positive association with PSM.

Finally, the discussion of all findings in the present study was constructed in such a way that the process included revisiting the research instrument, linking with previous studies, and looking at the context of each responding organisation. The next and final chapter consists of the conclusion of all of the study's findings, its contribution to the literature, its contribution to policy and practice, its limitations and its implications for future research.

Chapter Ten: Conclusion

10.1 Introduction

This study focused on investigating the BSC as a PMS within public-sector organisations in Indonesia. The study was aimed at understanding how the BSC is implemented as a PMS and the extent to which organisational factors, in particular organisation size and employees' roles, affect its implementation within public-sector organisations. The study further sought to understand how public-sector organisations implement the BSC to improve PSM, OC and OP. This study took samples from twelve Indonesian customs and excise organisations (n= 1,675). With regard to the research strategy choice, this study employed a quantitative approach to answer the research questions and achieve the objectives of the study.

The data originated from self-administered questionnaires, performance data on state revenue collection, customer satisfaction index data and other supporting documents related to PMS from the twelve responding organisations. In terms of data analysis, this thesis employed several techniques: CFA, SEM, panel data regression analysis and growth curve modelling. CFA was carried out to examine how the responding organisations had implemented the BSC using the framework of the SFO principles. The SFO encompasses five principles: strategy translation, strategy alignment, strategy as everyone's everyday job, strategy as a continuous process and leadership involvement. With respect to SEM, the technique was utilised to examine the relationship of the BSC with organisation size, employee roles, OC and PSM. Meanwhile, panel data regression modelling was used to evaluate the relationship of BSC implementation with state revenue collection as a variable representing organisational performance. This technique was chosen for its ability to analyse longitudinal data, enabling a view of OP both before and after the implementation of the BSC. Lastly, growth curve modelling was

employed to evaluate customer satisfaction index trends after the implementation of the BSC.

The remainder chapter is structured as follows. The subsequent section is a general overview of the thesis which reviews the core contents of this study. A summary of the main findings is then presented with regard to each research question. The next section covers this study's research contribution, including its offerings in terms of both theory and policy and practice, followed by a discussion of the study's limitations. Subsequently, directions for future research are proposed. The last section of this chapter presents a personal perspective of the researcher's PhD journey.

10.2 General overview of the thesis

Overall, the conceptual framework of this study incorporates three main themes which correspond to the research objectives and research questions of the study. The first is the quality of BSC implementation within the DGCE. In the early stages of the analysis, the researcher evaluated how well the PMS based on the BSC approach had already been established within the respondent organisations. In this study, the SFO principles (strategy translation, strategy alignment, strategy as everyone's everyday job, strategy as a continuous process, and leadership involvement) were used as parameters to evaluate BSC implementation (see Kaplan and Norton 2001c), together with the analysis of relevant documents. The second main theme is the extent to which organisation size and employees' roles factor in BSC implementation. The third is the effect of BSC implementation on three main constructs: PSM, OC and OP. Thus, the three main themes of this study cover how the BSC is being implemented, how organisational factors (organisational size and employees' roles) affect BSC implementation and, finally, how the implementation of the BSC affects both the employees (in terms of PSM and OC) and the organisation (in terms of OP). Therefore, this study's results offer knowledge that could fill the gaps in the literature by presenting findings on the

practice of the BSC in Indonesian customs and excise organisations. For instance, despite the increasing interest in adopting the BSC in public-sector organisations, to date, little is known about the extent to which implementation of the BSC affects OP (Hoque 2014). This study generated findings showing that there is a positive and significant association between implementation of the BSC as a performance management system and OP. Further details of the main findings that emerged from this study are presented in the subsequent section.

10.3 Summary of main findings

This study aimed at examining the implementation of the BSC as PMS within public-sector organisations in Indonesia in order to understand the nature of BSC practice and its consequences as related to organisation size, employee roles, OC, PSM and OP. Based on the findings that emerged, the framework of BSC implementation used for the analysis was then **refined**, as shown in Figure 10.1.

Figure 10.1 Final relationship of BSC, organisation size, employees' role, OC, PSM and OP
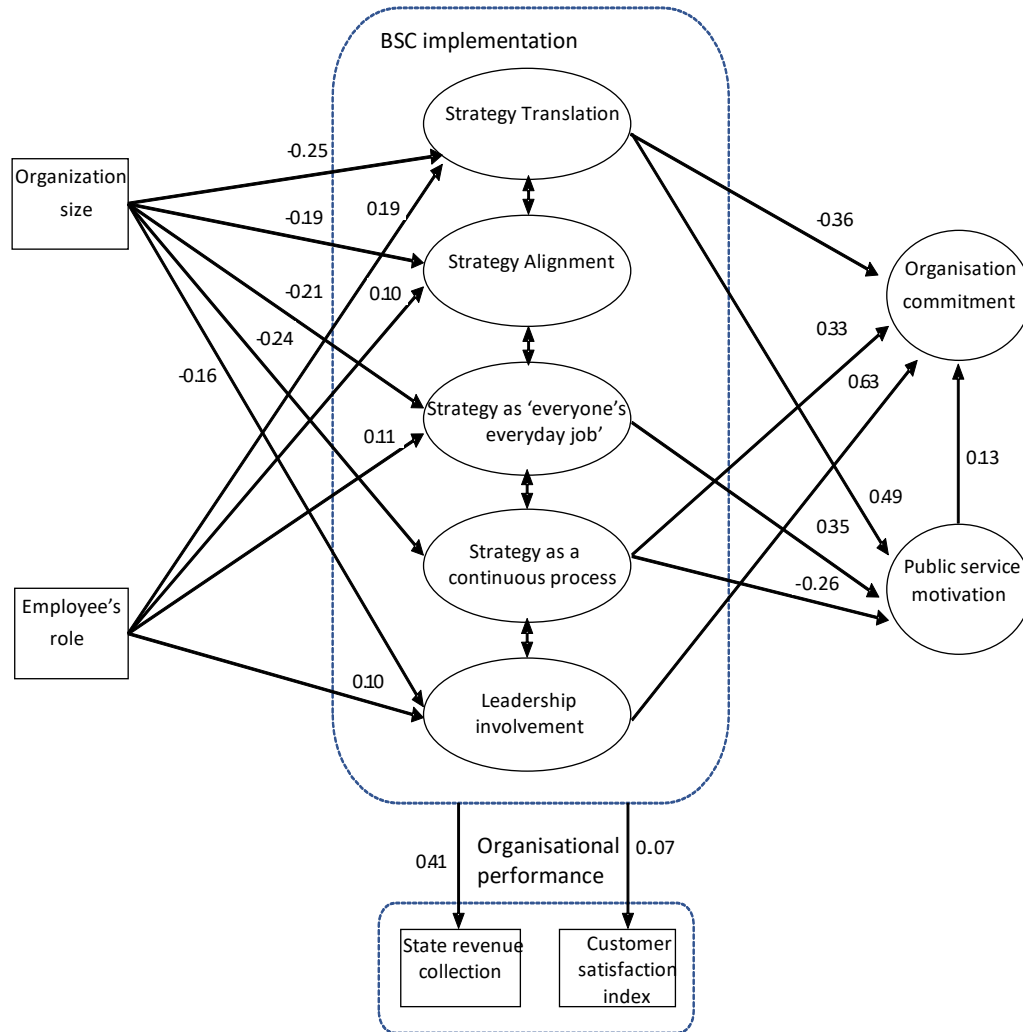
Based on the research aim, this study addressed four research objectives: to explore theoretical perspectives of the balanced scorecard with the purpose of identifying the key success factors of BSC implementation; to review BSC practices in order to clarify organisational factors that affect the BSC and discover how its implementation affects professional behaviours and organisational performance; to develop a conceptual framework of BSC implementation in public-sector

organisations in order to describe the relationship between organisational factors and the BSC and how its implementation contributes to professional behaviours and OP; and to test and examine the conceptual framework in order to discover the extent to which organisational factors influence the implementation of the BSC as well as the extent to which BSC implementation relates to professional behaviours and OP in the context of public-sector organisations.

Table 10.1 Linkages of research aim, research objectives, and summary of main findings

Research Aim	Research Objectives	Summary of Main Findings
To explore the implementation of the BSC as a performance management system within public-sector organisations in Indonesia with a view to clarifying the nature of BSC practices and their relationship to organisational factors, organisational performance and employee behaviours	1. Explore theoretical perspectives of the balanced scorecard in order to identify the key success factors of balanced scorecard implementation;	• Since its introduction in 1992, the BSC has evolved from a performance measurement system to become a PMS with greater emphasis on strategy execution. • The literature shows that the BSC concept can be translated in various ways (Speckbacher et al. 2003; Braam et al. 2007; Modell 2009; Madsen and Stenheim 2011; Lueg & Carvalho e Silva 2013). Several researchers have attempted to construct typologies to describe the phases of BSC implementation (Speckbacher et al. 2003; Lawrie & Cobbold 2004; Soderberg et al. 2011; Perkins et al. 2014). • Kaplan and Norton (2001) posited that the five key success factors of BSC implementation are strategy translation, strategy alignment, strategy as everyone's everyday job, strategy as a continuous process, and leadership involvement. They called these the SFO principles.
	2. Review balanced scorecard practices in order to clarify organisational factors that affect the balanced scorecard as well as the ways in which the balanced scorecard implementation affect employee behaviour and organisational performance;	• Very few studies have evaluated the association of organisation size with the implementation of the BSC. Hoque and James (2000) and Speckbacher et al. (2003) reported similar findings, namely, that large organisations are more likely to implement the BSC. • The differences between strategic positions and other employee roles in BSC implementation have not been addressed in the previous literature. • The literature shows that little attention has been given to levels of OC, PSM and OP as consequences of BSC implementation. To date, to the best of the researcher's knowledge, only one study (Molina et al. 2014) has investigated the effect of the BSC on commitment among

		employees. The authors found a positive relationship between BSC implementation and employee commitment.
		• With regard to PSM, to the best of the researcher's knowledge, no study has yet examined the influence of BSC implementation on the level of PSM.
		• Turning to OP, some studies (Hoque and James 2000; Ittner et al. 2003; Braam and Nijssen 2004; Davis and Albright 2004; de Geuser et al. 2009) have reported a correlation between BSC implementation and OP. However, none of them was set in a public-sector organisation. The present study thus serves as the first to provide empirical evidence of the BSC's association with OC, PSM and OP in public-sector organisations.
	3. Develop a conceptual framework of balanced scorecard implementation in the public-sector organisation to describe the relationship between organisational factors and the balanced scorecard and define the ways in which its implementation contributes to employee behaviour and organisational performance;	• The conceptual framework serves as the proposed logical construct describing the dependent and independent variables that might influence BSC implementation.
		• Research hypotheses were developed and associated with organisational size, employee roles, OC, PSM and OP.
		• Hypotheses regarding the directions of the relationships among the variables were developed based on previous studies which directly or indirectly related to the variables.
		• For some variables (employee roles and PSM) with no direct previous findings, the researcher used indirect studies as the rationale for building the hypotheses. For the PSM variable, this study follows Camilleri's (2007) assertion that the establishment of clear goals is one of the conditions under which PSM levels increase.

	4. Test and examine the conceptual framework in order to discover the extent to which organisational factors influence the implementation of the balanced scorecard and the extent to which balanced scorecard implementation relates to employee behaviour and organisational performance within the public-sector organisational context.	• This study utilised four analytical tools (CFA, SEM, panel data regression modelling and growth curve modelling) to discover the relationships among the variables of the conceptual framework. • CFA was used to determine whether the correlations between the SFO principles representing BSC implementation create value within the BSC framework. The results showed that all principles have significant and positive correlations with one other, indicating that customs and excise organisations have applied the SFO principles in their BSC implementation. Therefore, the results justified the use of the SFO principles to examine the implementation of the BSC. Using these SFO principles, enabled a more comprehensive analysis of how the BSC was implemented in the responding organisations. • This study used SEM to explore the influence of organisation size and employee roles on BSC implementation. In terms of organisation size, the results showed that large organisations are less likely to have implemented the BSC. Turning to employee roles, the results demonstrated that employees holding strategic positions within their organisations were more likely to implement the BSC. • The relationships between the BSC and OC and PSM were analysed using SEM. With respect to OC, this study yielded mixed results: strategy translation showed a negative correlation with OC, while strategy as a continuous process and leadership involvement showed a positive relationship with OC. • Turning to PSM, the findings were also mixed. Strategy translation, strategy as everyone's everyday job and strategy as a continuous process showed a significant relationship with PSM, whereas strategy alignment and leadership involvement did not.

		• This study also considered how OC and PSM relate to each other. We found that PSM reinforced OC in the customs and excise organisations studied.
		• The final test was the investigation of the relationship between BSC implementation and OP. Unlike the other portions of the study, this analysis used organisation-level longitudinal data obtained from the responding organisations. Two different analytical tools were applied to analyse both relationships representing OP: panel data regression model analysis for the state revenue collection variable and growth curve modelling for the customer satisfaction index variable. Using the panel data regression analysis enabled the researcher to analyse the effect of BSC implementation using before-and-after performance data. Meanwhile, the use of growth curve modelling assisted in the analysis of customer satisfaction index performance in the period after BSC implementation.
		• The two analytical tools yielded similar findings, namely, that BSC implementation has a positive association with OP. Thus, this study suggested that implementation of the BSC is likely to increase the OP of Indonesian customs and excise organisations.

10.4 Research contribution

10.4.1 Theoretical contribution

The BSC concept has been of interest to a large number of researchers. Despite the impressive number of relevant studies in the literature, none has yet conducted the research using a complete approach. Based on a review of the extant literature, previous studies can generally be grouped into two categories: those using a theory-based approach and those using an implementation-based approach. The theory-based studies examined the BSC concept using literature reviews (see for instance Salterio 2012; Behrouzi and Ma' aram 2014) and analytical approaches (see for instance Nørreklit 2000, 2003; Nørreklit et al. 2012; Schobel and Scholey 2012). The authors of the existing implementation-based literature applied such techniques as laboratory experiment (see for instance Dilla and Steinbart 2005; Wing and Yang 2007; Beard 2009; Humpreys and Trothman 2011), interviews (see for instance Decoenne and Bruggeman 2006; Nilsson 2010), survey (see for instance Burney and Swanson 2010; Hoque and Adams 2011) and action research (see for instance Irwin 2002; Farneti 2009).

The present study developed a conceptual framework which offers more aspects from which to analyse BSC implementation. This conceptual framework comprises three layers of analysis. They describe how the BSC is being implemented, how organisational factors affect BSC implementation and how BSC implementation contributes to individual professional behaviours and organisational performance. The first step was to evaluate the quality of BSC implementation using the SFO principles. The second analysis examined the extent to which the organisational factors of organisation size and employee roles may affect BSC implementation, while the third analysis considered how BSC implementation might contribute to employees' professional behaviours (as represented by PSM and OC) as well as overall OP. Thus, this study contributes by providing a more holistic analytical framework for evaluating the BSC concept. In addition, this research attempts to

fill research gaps that directly relate to BSC implementation. The ways in which it does so are elaborated here.

The present study is, firstly, the first to attempt to investigate the relationship between the implementation of the BSC and OP using data from public-sector organisations. Only a few studies have examined the effect of the BSC on OP (for instance: Hoque and James 2000; Ittner et al. 2003; Davis and Albright 2004; Braam and Nijssen 2004; de Geuser et al. 2009). However, those studies all used data from private sector organisations. Amongst previous studies, the present study is closest to the research by de Geuser et al. (2009) as both used the same approach to obtain a picture of BSC implementation, namely, using the SFO principles to represent the BSC principles. However, this present study extends the body of knowledge in three ways: first, unlike most studies, which utilised perceived data for OP, this study used actual OP data from its twelve responding organisations. Second, the variables used in this study originated from key performance indicators (state revenue collection and customer satisfaction index), which directly measure the achievement of the organisations' strategic objectives. Third, these two key performance indicators are available longitudinally, thus enabling the researcher to evaluate OP before and after implementation of the BSC as well as OP trends following BSC implementation.

The second way in which this research contributes to the body of knowledge is that it is the first study on BSC implementation in public-sector organisations in Indonesia with respect to the aspects studied. This study provides insight into the Indonesian context and answers the call for more research examining the implementation of the BSC in public-sector organisations in emerging economies (Hoque 2014). This study is also the first to use data from public-sector organisations which have implemented the BSC to the individual level. The responding public-sector organisations were twelve customs and excise organisations located in four provinces in Indonesia, a country with an emerging

economy. The present study therefore enhances the literature by examining and providing empirical evidence about the implementation of the BSC in public-sector organisations having adopted the BSC to the individual level in an emerging economy. Prior studies regarding the BSC framework have mainly taken place in the USA, Europe, Australia and New Zealand. Rhodes et al. (2008) pointed out that empirical evidence relating to the effectiveness of BSC implementation is limited, as is the impact of Asian BSC contextual variables. Thus, this study provides empirical evidence as to how the BSC is being implemented as a PMS in a new cultural context, that is, public-sector organisations in Indonesia.

Thirdly, the present study differs from previous studies in that earlier work has included only executives as respondents. In contrast, this study involved employees from all organisational levels and did so proportionately. From a practical perspective, the fact that the twelve responding organisations have implemented the BSC concept to the individual level supports the idea to involve proportionate numbers of employees from each level of the organisations. From a theoretical perspective, the decision to involve employees from each level of the organisations was taken based on the concept that the BSC applies a top-down approach during the planning phase but shifts to a bottom-up process during execution (Kaplan and Norton 1996b). In consideration of these two factors, it is clearly appropriate to include employees from each level of organisation as respondents in such a study. Therefore, this study provides empirical evidence of BSC implementation by using samples from all levels of the responding organisations and may thus offer a more comprehensive view of how the BSC has been implemented within those organisations.

Fourthly, unlike most studies, which did not provide clear information regarding the stage or level of BSC implementation in the responding organisations, this research provides information regarding how well the BSC was being integrated into the twelve customs and excise organisations. In fact, the selection of those

twelve organisations was based principally on the fact that they had achieved similar levels of BSC implementation. This is an important aspect: an accurate determination of whether companies make use of the BSC is a necessary condition for assessing its performance implications, and any failure to make this determination would undermine the validity of the study as a whole (Burkert et al. 2010, p. 351).

Fifthly, this study is one of the first to directly examine the effect of organisational attributes on BSC implementation. This study responds to the call for more research examining the use of the BSC in different types of organisations, particularly those of different sizes (Madsen and Stenheim 2015). The organisational attributes used in this study are organisation size and employee roles. Only two studies have reported on the association of organisation size with BSC usage (Hoque and James 2000; Speckbacher 2003), and both took place in private sector settings. The present study, therefore, provides the first empirical evidence of how the size of a public-sector organisation affects BSC implementation. It shows that small offices were more likely to implement the BSC. Turning to employee roles, this study provides the first empirical evidence regarding the relationship between holding a strategic professional role and the likelihood of implementing the BSC. In practice, employees in managerial positions have more opportunity to discuss organisational strategic objectives (see Kaplan and Norton 1996a, b; 2009). This condition was expected to positively affect employees in managerial positions with respect to the implementation of the BSC. The results of this study demonstrated that, indeed, employees who held strategic positions were more likely to implement the BSC.

Sixthly, this study is one of the first to directly investigates the effect of the BSC as new management model towards employees' attitudes. To my knowledge, the study by Molina et al (2014) is the only literature which studies the influence that BSC implementation has on organisational climate, employees' commitment, job

satisfaction and job dedication. However, this present study differs from the research by Molina et al (2014) in several areas: research objects, research settings, and research participants coverage. Thus, this present study delivers the first empirical evidence about the relationship between the implementation of BSC with OC and PSM in public-sector organisation. With regard to OC, this research found that BSC has a significant association, especially in strategy translation, strategy as a continuous process and leadership involvement. Meanwhile, regarding PSM, this research showed that the BSC has significant association particularly in strategy translation, strategy everyone's everybody job and strategy as a continuous process.

Seventhly, this study is among the few that cover strategy maps, strategy execution and cascading in the BSC. Hoque (2014) asserted that these three important BSC properties have received only limited attention from researchers. This study analysed strategy mapping and cascading from the standpoint of the SFO principles in order to examine the BSC's relationship with OC, PSM and OP. The use of three of the five SFO principles (strategy translation, strategy alignment and strategy as everyone's everyday job) enabled the researcher to explore how the strategy map and cascading process functioned in the responding organisations. The aspect of strategy mapping is included in strategy translation, while strategy cascading is included in the principles of strategy alignment and strategy as everyone's everyday job.

10.4.2 Contribution to policy and practice

This study concluded that all twelve organisations had followed the five SFO principles. However, policy makers should see the SFO principles as a mere guide to BSC implementation. Using the SFO principles, policy makers may evaluate how the BSC helps increase the quality of organisational service delivery, for instance, how it can contribute to PSM and OC. With regard to OC, this study found that the BSC has significant relationships with translating strategy, strategizing

continuously and actively involving the leaders of the organisation. Policy makers should ensure that the cascading and aligning of organisational KPIs from lower-level management to the individual level is well executed. With regard to PSM, policy makers should be aware that better translating the strategy into operational activities and making organisational strategy more understandable for employees are both significant for the level of public service motivation.

This research has shown that the BSC practices in the DGCE follow the SFO principles, which according to Kaplan and Norton (2001c) are the success factors of BSC implementation. Thus, this empirical evidence confirms that BSC implementation in a public-sector setting could also use the SFO principles as evaluative indicators. Policy makers and performance managers may therefore wish to employ the SFO principles as a medium for analysing the effects of BSC implementation.

Furthermore, our finding regarding organisation size showed, surprisingly, that large offices are less likely to implement the BSC. This contradicted initial expectations that large organisations would take more advantage of the BSC's capability to communicate strategy (Kaplan and Norton 1996b). It may be that the length of time needed to cascade the BSC from the organisational level to the individual level differs between large and small organisations. In the initial stages of development, policy makers should differentiate between large and small organisations, due to their inherent differences in the organisational learning process (Murray and Donnegan 2003). Obviously, policy makers in the DGCE did not use this strategy, given that both its large and small organisations expanded BSC implementation to the individual level at the same time (2012). Moreover, this study showed that employees holding strategic roles (managers) are more likely to implement the BSC concept. This finding could be used to help underpin BSC implementation in large organisations by empowering managers to help increase their subordinates' awareness of the BSC concept. Managers should be

given responsibility to equip their subordinates with BSC knowledge so that all employees clearly understand their roles and can focus on delivery of performance-related measures that support organisational strategy (Greatbanks and Tapp 2007).

Another important lesson that can be learned from this study is how the BSC as a PMS is associated with OC and PSM among customs and excise employees. Surprisingly, strategy translation using the BSC framework showed two different directions of association, with a negative relationship with OC and a positive relationship with PSM. As the aim of strategy translation is to allow for a better understanding of organisational strategic objectives (Kaplan and Norton 2001c), this may indicate that employees of the customs and excise organisations were not eager to achieve organisational strategic objectives. The fact that translating the organisational strategies decreased the level of employees' commitment could be triggered by several circumstances. For instance, employees may not know the meaning of organisational strategy, employee KPIs may not be relevant to organisational strategy, or KPI targets may be too difficult to meet. An effective way to handle this issue would be for the head of each customs and excise organisation to show a high level of commitment by providing quality KPIs and reasonable targets. Furthermore, heads of organisation should, together with the performance managers, directly lead the BSC internalisation process in order to communicate the BSC concept. In particular, organisational strategic objectives and KPIs should be explicitly linked to opportunities for employees' personal development. This is necessary because employees at the customs and excise organisations may feel a stronger attachment to an organisation if they discover that their values are in accordance with the organisation's values (Meyer and Allen 1997).

With regard to OP, this study supports the idea that BSC usage has a positive association with OP (Hoque and James 2000; Braam and Nijssen 2004; Davis and

Albright 2004; de Geuser et al. 2009). This empirical evidence can be used as a justification for policy makers to use the BSC as PMS. Thus, policy makers and managers should work together to improve the quality of BSC practice. To ensure successful implementation of the BSC as PMS, policy makers should focus on refining the PMS. Specifically called for are: more flexibility in the BSC for different organisational sizes, standardised quality of strategic objectives and KPIs, and training for managers to improve their skills in guiding the performance management process. Additionally, managers in each office should facilitate the implementation of BSC to the individual level, ensure the quality of BSC usage as described in the strategic objectives, and implement KPIs and KPI targets that meet the standardised criteria stipulated by policy makers.

10.5 Limitations of the study

This study yields some interesting findings and implications; however, it is not without limitations which could be addressed in future research. The first limitation is that the present study, as a cross-sectional study, relies mainly on survey data collected in 2016 from twelve Indonesian customs and excise organisations. As such, the possibility of interpreting those data may be limited; as a result, no causality can be inferred in the relationships between the BSC and PSM and the BSC and OC. The second limitation is that there is a connection between the BSC and OC, PSM and OP in the conceptual framework. There is no direct link from PSM or from OC to OP. However, there should be a link between OC and PSM to OP, because OC and PSM are both good predictors of OP (Brewer and Selden 2000; Kim 2005). The results of this study are due to the absence of data on employee performance, which makes it impractical to analyse these relationships.

The third limitation is the small number of responding organisations. The SEM results for the models examining the associations with organisation size and employee roles did not show the models to be good fits. This is most likely due to

the small number of organisations (twelve) involved in the study. In addition to the total number of organisations, the total number of each category of organisation (large and small) should also be taken into consideration. This research included three large organisations and nine small organisations.

The fourth limitation concerns the characteristics of the respondents. All respondents were employees of Indonesian customs and excise organisations, from senior managers to staff. As such, the respondents, wishing to sustain their good relationship with their superiors, may have considered their superiors' feelings when completing the questionnaires. This may be especially true in a government organisation. In order to cope with this issue, the following steps were taken as safeguards: distributing the questionnaires personally to respondents, collecting the completed questionnaires from the respondents' organisations, guaranteeing respondents that all questionnaires would be treated anonymously, and assuring respondents that their superiors would not be given access to the completed questionnaires.

10.6 Directions for future research

Future research on this topic should increase the ability to understand the associated effects of the implementation of the BSC on both the individual employee level and the organisational level. It should also generate more understanding of how the BSC is being implemented within public-sector organisations in countries with emerging economies. With this in mind, the researcher's first suggestion is that future studies should gather more longitudinal data on OC and PSM, as this study did for OP. Such a longitudinal study may be better suited to search for causality in the relationships between the BSC and PSM and OC.

The second suggestion concerns the measurement of the influence of OC and PSM on OP. This study used the conceptual framework as the basis for analysing the relationships between BSC implementation and PSM, OC and OP. Future study could refine the research framework by adding links between OC and OP and between PSM and OP. In order to do that, the study should collect data on performance results at the employee level. In this way, a future study could measure the moderating effect of both variables on OP, thus helping to more accurately measure the relationship between BSC and OP.

The third suggestion regards the scope of the research setting. The findings of this research are based on the study of BSC implementation in the DGCE. There is a need for further research to expand the setting to public-sector organisations across Indonesia or to perform a comparative study of public-sector organisations in Southeast Asia. Such research would increase the generalisability of the results. The results of a comparative study would make an immense contribution to our knowledge about BSC implementation within public-sector organisations in Southeast Asian countries.

The fourth suggestion is related to the role of organisational factors in fostering BSC implementation. This study made the surprising discovery that large organisations are less likely to implement the BSC than small organisations, though large organisations can take advantage of the BSC framework to mobilise employees to work towards organisational objectives (Kaplan and Norton 1996b). Therefore, this finding could inspire future study to further explore the reasons for which large organisations are less likely to implement the BSC.

10.7 A personal perspective on the PhD journey

For me, this PhD journey has been a continuous learning process requiring discipline, commitment, perseverance, self-motivation, passion and honesty. I describe my PhD journey as driving along a long and challenging path with one destination: to successfully fulfil my research aim and objectives in the form of this thesis. The biggest challenge I faced was balancing my personal life with my academic activity during the writing process. The life of a PhD student is very different from the professional life I knew previously as a public servant. In fact, my most recent academic activity before continuing my PhD study was in 2007. Changing my routine was the most difficult aspect of the early stages of my PhD journey. To surmount issue, I engaged in several research activities—academic workshops, courses, seminars—and participated in conferences that I thought might be useful in enhancing my research skills. As my understanding of the research process increased and my knowledge and skills improved, I started to enjoy the PhD journey.

I am deeply grateful to my supervisors, Dr Chris Rees and Dr Aminu Mamman, for their guidance, patience, support and constructive comments, which made it possible for me to complete this PhD journey. I thank God that I have been surrounded by my loved ones, my wife and my children, during this time. I always receive great support from my family: my wife, Thre, always prays for me, supports me in her intuitive way and has unswervingly believed that I would successfully finish my PhD journey; my son, Jo, who always mentions my PhD completion in his prayers; and my baby boy, Jeth, and baby girl, Joana, who always share their love, smiles and cheerfulness, easing the stressful times that I have experienced during this long journey.

Having accomplished my PhD journey, I shall return to the institution for which I worked previously, the Indonesian Ministry of Finance. In addition to the

knowledge attained from writing my thesis, I wish to contribute to my institution by sharing my experience of the PhD journey itself, which has given me the opportunity to learn a myriad of positive things both academically and personally.

Reference

Agostino, D., and Arnalboldi, M. (2012)). Design issues in Balanced Scorecards: The "what" and "how" of control, *European Management Journal* 30, 327–339.

Ahn, H. (2001). Applying the Balanced Scorecard Concept: An Experience Report, *Long Range Planning 34*, 441-461.

Aidemark, L-G. (2010). Cooperation and competition: Balanced scorecard and hospital privatization. *International Journal of Healthcare and International Quality Assurance* 23(8), 730-748.

Akkermans, H.A and Van Oorschoot, K.E. (2005). Relevance assumed: a case study of balanced scorecard development using system dynamics, *Journal of the Operational Research Society* 56, 931-941.

Al-Aama, A.Y. (2013). Using Balanced Scorecards to Manage IT Strategies in Public Organizations: The Case of Jeddah Municipality, *Engineering Management Research* 2(1), 111-121.

Allison, P. (2002). *Missing data (Quantitative applications in the social sciences*; no. 07-136). Thousand Oaks, Calif.: Sage Publications.

Anderson, J.C. and Gerbing, D.W. (1988), Structural equation modelling in practice: a review and recommended two step approach, *Psychological Bulletin*, Vol. 103 No. 3, pp. 411-23.

Anspach, R. (1991). Everyday methods for assessing organizational effectiveness. *Social Problems*, 38(Feb 91), 1-19.

Atkinson, H. (2006). Strategy Implementation: a role for the Balanced Scorecard? *Management Decision* 44 (10), 1441-1460.

Au, C. (1996). Rethinking Organizational Effectiveness: Theoretical and Methodological Issues in the Study of Organizational Effectiveness for Social Welfare Organizations. *Administration in Social Work*, 20, 1-21.

Ayoup, H. K., Omar, N., & Rahman, I. (2016). Balanced scorecard and strategic alignment: A Malaysian case. *International Journal of Economics and Financial Issues*, 6(4), 85-95.

Balfour, D., & Wechsler, B. (1990). Organizational Commitment: A Reconceptualization And Empirical Test Of Public-Private Differences. *Review of Public Personnel Administration*, 10(3), 23-40.

Balfour, D., & Wechsler, B. (1996). Organizational Commitment: Antecedents and Outcomes in Public Organizations. *Public Productivity & Management Review*, 19(3), 256-277.

Banker, R.D., Chang, H., and Pizzini, M. (2004).The Balanced Scorecard: Judgmental Effects of Performance Measures Linked to Strategy, *The Accounting Review*, 79(1), 1-23

Banker, R.D., Chang, H., and Pizzini, M. (2011). The Judgmental Effects of Strategy Maps in Balanced Scorecard Performance Evaluations, *International Journal of Accounting Information Systems* 12, 259–279.

Bartholomew, D., Knott, M., & Moustaki, Irini. (2011). *Latent variable models and factor analysis : A unified approach* (3rd ed., Wiley series in probability and statistics). Chichester: Wiley.

Beard, D.F, Humprey, R.L. (201). Alignment of University Information Technology Resources With the Malcolm Baldrige Results Criteria for Performance Excellence in Education: A Balanced Scorecard Approach. *Journal of Education for Business.* 89, 7, 382-388.

Beard, D.F. (2009). Successful Applications of the Balanced Scorecard in Higher Education*, Journal of Education for Busines*, 275-282.

Behrouzi, F., Shaharoun, A.M., Ma'aram, A. (2014). Applications of balanced scorecards for strategic management and performance measurement in the health sector. *Australian Health Review,* 38, 208-217

Bianchia, C., and Montemaggiore, G.B. (2008). Enhancing strategy design and planning in public utilities through "dynamic" balanced scorecards: insights from a project in a city water company. *System Dynamics Review* 24(2), 175-213

Blumberg, B., Cooper, Donald R. & Schindler, Pamela S. (2014). Business research methods (Fourth ed.) London: Mcgraw – Hill Education.

Braam, N., and Sahlin – Anderson, K. (2004). Performance effects of using the Balanced Scorecard: a note non the Dutch experience, *Long Range Planning*, 37, 335–349.

Brewer, G.A. and Seldon, S.C. (1998), "Whistle blowers in the federal civil service: new evidence of the public service ethic", *Journal of Public Administration Research and Theory*, 8(3), pp. 413-39.

Brewer, G.A. and Seldon, S.C. (2000), "Why elephants gallop? Assessing and predicting organisational performance in federal agencies", *Journal of Public Administration Research and Theory*, 10(4), 685-711.

Bright, L. (2005). Public Employees With High Levels of Public Service Motivation. *Review of Public Personnel Administration*, 25(2), 138-154.

Brignall, & Modell. (2000). An institutional perspective on performance measurement and management in the 'new public sector'. *Management Accounting Research*, 11(3), 281-306.

Brown, T. (2015). *Confirmatory factor analysis for applied research* (Second ed., Methodology in the social sciences). New York : The Guilford Press.

Bruijn, H. (2006). *Managing performance in the public sector* (2nd ed.). London: Routledge.

Brunnson, C.D., Larcker, D.F., and Randall, T. (2000). Constructing Organizations: The Example of Public Sector Reform. *Organization Studies*, 715–741.

Bryman, A. (2015). *Social Research Methods*, 5th Edition. Oxford: Oxford University Press.

Buchanan, B. (1974). Building Organizational Commitment: The Socialization of Managers in Work Organizations. *Administrative Science Quarterly*, 19(4), 533-546.

Budde, J. (2007). Performance Measure Congruity and the Balanced Scorecard. *Journal of Accounting Research*, 45 (3), 515-539

Burkert, M., Davila, A. and Oyon, D. (2010), "Performance consequences of Balanced Scorecard adoptions: claim for large-scale evidence and propositions for future research", *Studies in Managerial and Financial Accounting*, 20, pp. 345-361

Burney, L.L., and Swanson, N.J. (2010).The Relationship Between Balanced Scorecard Characteristics and Managers' Job Satisfaction, J*ournal of managerial Issues* 22 (2), 166-181

Burns, T., & Stalker, George Macpherson. (1961). *The management of innovation*. London: Tavistock Publications.

Caillier, J. (2015). Transformational Leadership and Whistle-Blowing Attitudes. *The American Review of Public Administration*, 45(4), 458-475.

Camilleri, E., & Van der Heijden, B. I. J. M. (2007). Organizational commitment, public service motivation, and performance within the public sector. *Public Performance & Management Review*, 31 (2), 241–274.

Cardinaels, A., and Van Veen-Dirks, P.M.G. (2010). Financial versus non-financial information: The impact of information organization and presentation in a Balanced Scorecard, *Accounting, Organizations and Society* , 35, 565–578.

Carmona, S., Iyer, G., and Reckers, P.M.J. (2011). The impact of strategy communications, incentives and national culture on balanced scorecard implementation , *Advances in Accounting, incorporating Advances in International Accounting* , 27 , 62–74.

Chan, Y.-C. L. (2004). Performance Measurement And Adoption of Balanced Scorecard: a Survey of Municipal Governments in the USA and Canada. *The International Journal of Public Sector Management* , 17, 204–221.

Chan, Y.-C. L. (2006). An Analytic Hierarchy Framework for Evaluating Balanced Scorecards Of Healthcare Organizations. *Canadian Journal of Administrative Sciences*, 23(2), 85-104.

Chang, C. L. (2007). The NHS Performance Assessment Framework as a Balanced Scorecards Approach. *The International Journal of Public Sector Management* 20(2), 101–117.

Chang, W-C., Tung, Y-C, Huang, C-H., and Yang, M.C. (2008). Performance improvement after Implementing the Balanced Scorecard: A large hospital's experience in Taiwan, *Total Quality Management,* 19 (11), 1143–1154.

Chavan, M. (2007). The balanced scorecard: a new challenge, *Journal of Management Development* , 28 (5), 393 – 406.

Chen, X.Y., Yamaouchi,K., Kato,K., Nishimura, A., & Ito, K. (2006). Using Balanced Scorecards to Measure Chinese And Japanese Hospital Performance. *International Journal of Healthcare and International Quality Assurance*, 19(4), 339-350.

Chiang, C-Y., and Lin. B., (2009). An Integration of Balanced Scorecards and Data Envelopment Analysis for Firm's Benchmarking Management, *Total Quality Management*, 20(11), 1153–1172.

Chittoo, H. B., Ramphul, N., & Nowbutsing, B. (2009). Globalization and public-sector reforms in a developing country. *Culture Mandala: Bulletin of the Centre for East-West Cultural & Economic Studies*, 8(2), 30–51.

Cho, E., & Kim, S. (2015). Cronbach's Coefficient Alpha. *Organizational Research Methods*, 18(2), 207-230.

Collin, R. and Mccartan, K. (2016). *Doing management research*. London: SAGE.

Collis, J., Hussey, Roger, author, & Dawsonera. (2014). *Business research a practical guide for undergraduate & postgraduate students*.

Comrey, A., & Lee, Howard B. (1992). A first course in factor analysis (2nd ed.). Hillsdale, N.J. ; Hove: L. Erlbaum Associates.

Crabtree, A.D, and Debusk, G.K. (2008). The Effects of Adopting the Balanced Scorecard on Shareholder Returns, *Advances in Accounting, incorporating Advances in International Accounting,* 24, 8–15.

Creswell, J. (2014). Research design : *Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks: SAGE Publications.

Crewson, P. (1997). Public-Service Motivation: Building Empirical Evidence of Incidence and Effect. *Journal of Public Administration Research and Theory: J-PART*, 7(4), 499-518.

Davis, S., and Albright, T. (2004). An investigation of the effect of Balanced Scorecard Implementation on Financial Performance, *Management Accounting Research,* 15 135–153.

De Geuser, F., Mooraj, S., & Oyon, D. (2009). Does the Balanced Scorecard Add Value? Empirical Evidence on its Effect on Performance, *European Accounting Review*, 18(1), 93–122.

Dechow, N. (2012). The balanced scorecard: subjects, concept and objects - a commentary, *Journal of Accounting & Organizational Change*, 8(4), 511-527.

Decoene, V., and Bruggeman, W. (2006). Strategic alignment and middle-level managers' motivation in a balanced scorecard setting, *International Journal of Operations & Production Management*, 26(4), 429-448.

Dilla, W.N., and Steinbart, P.J. (2005). Relative Weighting of Common and Unique Balanced Scorecard Measures by Knowledgeable Decision Makers, *Behavioral Research in Accounting*, 17, 43-53.

Ding, S., and Beaulieu, P. (2011). The Role of Financial Incentives in Balanced Scorecard-Based Performance Evaluations: Correcting Mood Congruency Biases, *Journal of Accounting Research,* 49(5), 1223-1247.

Dobrovic, Z., Tomicic, M., and Vrecek, N. (2008). Towards An Effective e-Government: Implementation of a Balanced Scorecard in the Public Sector, *Intelektine Ekonomika*, 1(3), 7-17.

Dreveton, B. (2013). The advantages of balanced scorecards in public sector: Beyond performance measurement. *Public Money and Management,* 33(2)131-136.

Easterby-Smith, M., Cooper, D. R., and Schindler, P.S. (2014), *Business research methods*, 4th Edition. London: Sage.

Eipstein, M.J.V., and Wisner, P.S. (2001). Using a balanced scorecard to implement sustainability, *Environmental Quality Management*, 11 (2), 1-10.

Evan, P., and Rausch, E.J. (1999). Bureaucracy and Growth: A Cross-National Analysis of the Effects of "Weberian" State Structures on Economic Growth. *American Sociological Review,* 64 (5), 748-765.

Farneti, F. (2009). Balanced scorecard implementation in an Italian Local Government Organization, *Public Money & Management*, 29(5), 313-320.

Fernandes, K. J., Raja, V., & Whalley, A. (2006). Lessons from implementing the balanced scorecard in a small and medium size manufacturing organization. *Technovation*, 26(5), 623-634.

Gavin Lawrie, Ian Cobbold, (2004) Third-generation balanced scorecard: evolution of an effective strategic control tool, *International Journal of Productivity and Performance Management*, 53(7), pp.611-623.

Gibbons, Robert, and Robert S. Kaplan. 2015. Formal Measures in Informal Management: Can a Balanced Scorecard Change a Culture? *American Economic Review*, 105 (5): 447-51.

Ginting, E., Yusuf, A.A., Aji, P, and Horridge, M. (2015). Economy-wide impact of a more efficient Tanjung priok port, *Asian Development Bank Papers on Indonesia*, 03.

Globalsecurity.org. *Government in Indonesia* [online]. Available from: https://www.globalsecurity.org/military/world/indonesia/government.htm [last accessed 11 May 2018].

Gonzales, J., Calderon, M.A., and Gonzales, J.L.G. (2012). The alignment of managers' mental models with the balanced scorecard strategy map, *Total Quality Management*, 23(5), 613-628.

Government of Republic of Indonesia (2003). *State Finance*. Law number 17 Year 2003, Republic of Indonesia.

Government of Republic of Indonesia (2004a). *State Treasury*. Law number 1 Year 2004, Republic of Indonesia.

Government of Republic of Indonesia (2004b). *State Financial Management and Accountability.* Law number 15 Year 2004, Republic of Indonesia.

Greatbanks, R., & Tapp, D. (2007). The impact of BSC in a public-sector environment: empirical evidence from Dunedin City Council New Zealand. International *Journal of Operations and Production Management*, 27(8), 846-873

Greiling, D. (2010). Balanced scorecards implementation in German non-profit organizations. *International Journal of Productivity and Performance Management,* 59(6), 534–554.

Griffiths, John. (2013). Balanced scorecards use in New Zealand government departments and crown entities. *Australian Journal of Public Administration* 62(4), 70-79.

Guba, E. G. (1990) The paradigm dialogue. Newbury Park, California: Sage.

Guba, E.G and Lincoln, Y.S (1994), 'Competing paradigm in quantitative research', in Denzin, N.K. and Lincoln, Y.S (eds) Handbook of Qualitative Research. London: Sage Publication.

Guimarães, B., Simoes, Pedro., and Marques, R.C. (2010). Does performance evaluation help public managers? A Balanced Scorecard Approach in Urban Waste Services, *Journal of Environmental Management,* 91, 2632-2638.

Gurd, B & Gao, T (2008). Lives in the Balance: an Analysis of the Balanced Scorecard (bsc) in Healthcare Organizations. *International Journal of Productivity and Performance Management,* 57 (1), 6-21.

Hair, J. (2010). *Multivariate data analysis : A global perspective*. (7th ed., Global ed. / Joseph F. Hair, Jr., .. [et al.]. ed.). Upper Saddle River, N.J. ; London: Pearson.

Hair, J., Black, W.C., Babin, B.J., & Anderson, Rolph, E. (2014). *Multivariate data analysis*. (Pearson new international seventh edition / Joseph F. Hair, Jr., William C. Black, Barry J. Babin, Rolph E. Anderson. ed., Pearson custom library).

Hakim, C. (2000). *Research Design* (2th ed.). London: Routledge.

Heinrich, C.J. (2002). Outcome-based performance management in the public sector: Im plications for government accountability and effectiveness. *Public Administration Review*, 62(6), 112-125. Jacobsson, B. (2001).

Holmes, J.S., de Pineres, S.A.G., and Kiel, L.D. (2006). Reforming Government Agencies Internationally: Is There a Role for the Balanced Scorecard?, *International Journal of Public Administration,* 29, 1125–1145

Hood, C. (1995), The 'New public management' in the 1980s: variations on a theme, *Accounting, Organizations and Society, 1995, Vol.20(2), pp.93-109.*

Hooper, D., Coughlan, J., and Mullen, M. R. (2008). Structural Equation Modelling: Guidelines for Determining Model Fit. *Electronic Journal of Business Research Methods*, 6(1):53–60.

Hoque, Z., and James, W. (2000). Linking balanced scorecards Measures to Size and Market Factors: Impact on Organizational Performance, *Journal of Management Accounting Research*, 12, 1-17.

Hoque, Z., and Adams, C. (2011).The Rise and Use of Balanced Scorecard Measures in Australian Government Departments, *Financial Accountability & Management,* 27(3), 490-510.

Hoque, Z. (2014). 20 Years of Studies on the Balanced Scorecard: Trends, Accomplishments, Gaps and Opportunities for Future Research. *The British Accounting Review,* 46(1), 33-59.

Hu, L.T. and Bentler, P.M. (1999), Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives, *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 1-55.

Humphreys, K.A., and Trotman, K.T (2011). The Balanced Scorecard: The Effect of Strategy Information on Performance Evaluation Judgments, *Journal of Management and Accounting Research*, 23, 81–98.

Hussey, J., & Hussey, Roger. (1997). *Business research: A practical guide for undergraduate and postgraduate students*. Basingstoke: Macmillan.

Iacobucci, D. (2010), Structural equations modelling: Fit indices, sample size, and advanced topics, *Journal of Consumer Psychology*, 20, 90-98.

Inamdar, N & Kaplan, R. S. (2002). Applying the balanced scorecards in healthcare organizations. *Journal of Healthcare and Management*, 47(3), 179-195.

Irwin.D. (2002). Strategy mapping in the public sector, *Long Range Planning*, 35, 637–647.

Ittner, C.D., Larcker, D.F., and Randall, T. (2003). Performance Implications of Strategic Performance Measurement in Financial Services Firms. *Accounting, Organizations and Society,* 28, 715–741.

Ittner, C.D., Larcker, D.F., Meyer, M.W. (2003). Subjectivity and the Weighting of Performance Measures: Evidence from a Balanced Scorecard, *The Accounting Review,* 78(3),725-758.

Jackson, A. and Lapsley, I. (2003), The diffusion of accounting practices in the new 'managerial', The International Journal of Public Sector Management, 16(4/5), 359-372.

Jarzabkowski, P., Balogun, J., & Seidl, D. (2007). Strategizing: The challenges of a practice perspective. *Human Relations*, 60(1), 5-27.

Jo Rhodes , Paul Walsh & Peter Lok (2008) Convergence and divergence issues in strategic management Indonesia's experience with the Balanced Scorecard in HR management, *The International Journal of Human Resource Management*, 19(6), 1170-1185.

Johanson, U., Skoog, M., Backlund, A., and Almqvist, R. (2006). Balancing dilemmas of the balanced scorecard. *Accounting, Auditing & Accountability Journal,* 19 (6), 842-857.

Johnsen, A. (2001). Balanced Scorecards: theoretical perspectives and public management implications, *Managerial Auditing Journal*, 16/6, 319-330.

Johnson, P. and Duberley , J. (2000). *Understanding management research*. New York: Palgrave.

Kaplan, R. S. (2009). *Conceptual foundations of the balanced scorecard*. Handbook of management accounting research ,(3), 1253–1269). Oxford: Elsevier.

Kaplan, R. S., and Norton, D. P. (1992). The balanced scorecard – measures that drive performance. *Harvard Business Review*, 70(1), 71–79.

Kaplan, R. S., & Norton, D. P. (1993). Putting the balanced scorecard to work. *Harvard Business Review*, 134–147 (September–October).

Kaplan, R. S., & Norton, D. P. (1996a). Linking the balanced scorecard to strategy. *California Management Review*, 39(1), 53–79.

Kaplan, R. S., & Norton, D. P. (1996b). Using the balanced scorecard as a strategic management system. *Harvard Business Review* ,74(1), 75–85.

Kaplan, R. S., & Norton, D. P. (1996c). *The balanced scorecard: Translating strategy into action*. Boston, MA: Harvard Business School Press.

Kaplan, R. S., & Norton, D. P. (2000). *Having trouble with your strategy? Then map it*. Harvard Business Review, 78(5), 167–176.

Kaplan, R. S., & Norton, D. P. (2001a). Transforming the balanced scorecard from performance measurement to strategic management: Part I. *Accounting Horizon*, 15(1), 87–104.

Kaplan, R. S., & Norton, D. P. (2001b). Transforming the balanced scorecard from performance measurement to strategic management: Part II. *Accounting Horizon*, 15(2), 147–160.

Kaplan, R. S., & Norton, D. P. (2001c). *The strategic focused organization: How balanced scorecard companies thrive in the new business environment*. Boston, MA: Harvard Business School Press.

Kaplan, R. S., & Norton, D. P. (2004a). Measuring the strategic readiness of intangible assets. *Harvard Business Review*, 82(2), 52–63.

Kaplan, R. S., & Norton, D. P. (2004b). *Strategy maps: Converting intangible assets into tangible outcomes*. Boston, MA: Harvard Business School Press.

Kaplan, R. S., & Norton, D. P. (2006a). How to implement a new strategy without disrupting your organization. *Harvard Business Review*, 84(3), 100–109.

Kaplan, R. S., & Norton, D. P. (2006b). *Alignment: Using the balanced scorecard to create corporate synergies*. Boston, MA: Harvard Business School Press.

Kaplan, R., & Norton, D. (2006c). Response to S. Voelpel et al., "The tyranny of the Balanced Scorecard in the innovation economy," Journal of Intellectual Capital, Vol. 7 No. 1, 2006, pp. 43-60. Journal of Intellectual Capital, 7(3), 421-428.

Kaplan, R. S., & Norton, D. P. (2008a). Mastering the management system. *Harvard Business Review*, 63–77.

Kaplan, R. S., & Norton, D. P. (2008b). *The execution premium: Linking strategy to operations for competitive advantage.* Boston, MA: Harvard Business School Press.

Kaplan, R. S., Norton, D. P. & Rugelsjoen, B. (2010). Managing alliances with balanced scorecards. *Harvard Business Review*, 114–120.

Kaplan R, Norton D, Sher G. The Office of Strategy Management. *Harvard Business Review* [serial online]. October 2005;83(10):72-80.

Kasperkaya, Y. (2008). Implementing the Balanced Scorecard: a Comparative Study Of Two Spanish City Councils – an Institutional Perspective, *Financial Accountability & Management*, 24(4).

Kasurinen, T. (2002). Exploring management accounting change: the case of balanced scorecard implementation, *Management Accounting Research*, 13, 323–343.

Kim, S. (2005). Individual-Level Factors and Organizational Performance in Government Organizations. *Journal of Public Administration Research and Theory*, 15(2), 245-261.

Kim, S. (2011). Testing a Revised Measure of Public Service Motivation: Reflective versus Formative Specification. *Journal of Public Administration Research and Theory*, 21(3), 521-546.

Kline, R. (2011). *Principles and practice of structural equation modeling* (3rd ed., Methodology in the social sciences). New York: Guilford Press.

Kloot, L., & Martin, J. (2000). Strategic performance management: a balanced approach to performance management issues in local government. *Management Accounting Research*, 11, 231–251.

Kolberg, B., & Elg,M. (2011). The practice of balanced scorecards in healthcare services. International *Journal of Productivity and Performance Management*, 60(5), 427–455.

Kraus, K., and Lind, J. (2010). The Impact of the Corporate Balanced Scorecard on Corporate Control—A Research Note, *Management Accounting Research*, 21, 265–277.

Krejcie, R., & Morgan, D. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30(3), 607-610.

Kuhn, T. (1962). Historical structure of scientific discovery. *Science* (New York, N.Y.), 136(3518), 760-4.

Kuhn, T. S. (1970). *The Structure of Scientific Revolutions*. Chicago, IL.: University of Chicago Press.

Kuratko, D. F., Goodale, J. C., Hornsby, J. S. (2001), ʻQuality practices for a competitive advantage in smaller firms. Journal of Small Business Management, 39, 293-311.

Lapsley, I. and Wright, E. (2004), "The diffusion of management accounting innovations in the public sector: a research agenda", *Management Accounting Research*, Vol. 15 No. 3, pp. 355-74.

Lawrence, P., Lorsch, J.W., and Harvard University. Graduate School of Business Administration. (1967). *Organization and environment: Managing differentiation and integration.* Boston, Mass.: Division of Research, Graduate School of Business Administration, Harvard University.

Lawrie, G., & Cobbold, I. (2004). Third-generation balanced scorecard: evolution of an effective strategic control tool. *International Journal of Productivity and Performance Management*, 53(7), 611-623.

Lee, C-L., and Yang, H-J. (2011). Organization Structure, Competition and Performance Measurement Systems and their Joint Effects on Performance, *Management Accounting Research,* 22, 84–104.

Lee, S., Park, S.B., and Lim, G.G. (2013). Using Balanced Scorecards for the Evaluation of ''Software-as-a-service'', *Information & Management*,50, 553–561.

Libby, T., Salterio, S.E., and Webb, A. (2004) The Balanced Scorecard: The Effects of Assurance and Process Accountability on Managerial Judgment Theresa, *The Accounting Review*, 79(4) 1075-1094.

Lipe, M.G., and Salterio, S. (2000). The Balanced Scorecard: Judgmental Effects of Common and Unique Performance Measures, *The Accounting Review* ,75(3) 283-298.

Lowe, D.J., Salvador, C-M., Reckers, P.M.J. (2011). The Influence of Strategy Map Communications and Individual Differences on Multidimensional Performance Evaluations, *Accounting and Business Research,* 41(4), 375–391.

Lucianetti, L. (2010) 'The impact of the strategy maps on balanced scorecard performance', Int. J.*Business Performance Management*, 12(1), 21–36.

Lueg, R., & e Silva, A. L. C. (2013). When one size does not fit all: a literature review on the modifications of the balanced scorecard. *Problems and Perspectives in Management*, 11(3), 86-94.

Madsen, D.O., and Stenheim, T. (2014). Perceived benefits of balanced scorecard implementation: some preliminary evidence, Problems and Perspectives in Management 12, 81-90.

Madsen, D., & Stenheim, T. (2015). The Balanced Scorecard: A Review of Five Research Areas. American Journal of Management, 15(2), 24-41.

Malina, M.A., and Selto, F.H., (2001). Communicating and controlling strategy: an empirical study of the effectiveness of the Balanced Scorecards, Journal of Management Accounting Research13, 47-90.

Malmi, T. (2001). Balanced scorecards in Finnish companies: a research note. *Management Accounting Research*, 12(2), 207–220.

Mandy M. Cheng and Kerry A. Humphreys (2012) The Differential Improvement Effects of the Strategy Map and Scorecard Perspectives on Managers' Strategic Judgments. *The Accounting Review*, 87(3), 899-924.

Mantere, S. (2005). Strategic practices as enablers and disablers of championing activity. *Strategic Organization*, 3(2), 157–284.

Marr, B., and Shiuma, G., (2003). Business Performance Measurement - Past, Present and Future, *Management Decision*, 41(8), 680-687.

McAdam, R., & Walker, T. (2003). An inquiry into balanced scorecards within best value implementation in UK local government. *Public Administration,* 81(4), 873–892.

McAdam. R., Shirley-Ann, H., and Casey. C. (2005),Performance management in the UK public-sector, *International Journal of Public Sector Management*, 18 (3) pp. 256 - 273.

Mcdonald, R., & Ho, M. (2002). Principles and practice in reporting structural equation analyses. Psychological Methods, 7(1), 64-82.

Me, L. and Jiang, Wu. (2013). The Reconstruction of the Balanced Scorecard in Chinese Local Governments: Correction Model Based on Service-Oriented Government Strategic Goals. *Canadian Social Science,* 9(5), 156-161.

Meyer, & Allen. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, 1(1), 61-89.

Michalska, J. (2005). The usage of The Balanced Scorecard for the estimation of the enterprise's effectiveness, *Journal of Materials Processing Technology,* 162–163, 751–758.

Ministry of Finance Republic of Indonesia (2009). *Pengelolaan Indikator Kinerja Utama di lingkungan Departemen Keuangan.* Minister's Regulation Number 87/KMK.01/2009, Ministry of Finance Republic of Indonesia.

Ministry of Finance Republic of Indonesia (2010). *Pengelolaan Kinerja di lingkungan Departemen Keuangan.* Minister's Regulation Number Number 12/KMK.01/2010, Ministry of Finance Republic of Indonesia.

Ministry of Finance Republic of Indonesia (2011). *Pengelolaan Kinerja di lingkungan Kemeneterian Keuangan.* Minister's Regulation Number Number 454/KMK.01/2011, Ministry of Finance Republic of Indonesia.

Ministry of Finance Republic of Indonesia (2012). *Tentang Organisasi Dan Tata Kerja Instansi Vertikal Direktorat Jenderal Bea Dan Cukai.* Minister's Regulation Number 168/PMK.01/2012, Ministry of Finance Republic of Indonesia.

Ministry of Finance Republic of Indonesia (2014). *Tentang Perubahan Organisasi Dan Tata Kerja Instansi Vertikal Direktorat Jenderal Bea Dan Cukai.* Minister's Regulation 206.3/PMK.01/2014, Ministry of Finance Republic of Indonesia.

Modell, S. (2012). The politics of balanced scorecards. *Journal of Accounting & Organizational Change*, 8 (4), 475–489.

Molina, M.A.C., González, J.M.H, Florencio, B.P., and González, J.L.G (2014) "Does the balanced scorecard adoption enhance the levels of organizational climate, employees' commitment, job satisfaction and job dedication?", *Management Decision*, 52 (5), 983-1010.

Mottaz, Clifford J. (1986). An Analysis of the Relationship between Education and Organizational Commitment in a Variety of Occupational Groups. *Journal of Vocational Behavior*, 28(3), 214-28.

Moynihan, D., & Pandey, S. (2007). The Role of Organizations in Fostering Public Service Motivation. *Public Administration Review*, 67(1), 40-53.

Murray, P., Donegan (2003) "Empirical linkages between firm competencies and organizational learning", *The Learning Organization*, Vol. 10 Issue: 1, pp.51-62.

Naff, K., & Crum, J. (1999). Working for America: Does public service motivation make a difference? *Review of Public Personnel Administration*, 19(4), 5-16.

Neely, A. (2003), "Gazing into the crystal ball: the future of performance measurement", *Perspectives on Performance*, Vol. 2 No. 2, pp. 12-13.

Neely, A. Gregory, M. and Platts, K. (1995) "Performance measurement system design: A literature review and research agenda", *International Journal of Operations & Production Management*, Vol. 15 Issue: 4, pp.80-116.

Nilsson, K. (2010). Expectation from administrative reform: An attempt to implement balanced scorecards in a public-sector organization. *International Journal of Public Administration,* 33, 822-831.

Niven, P. R. (2002). *Balanced scorecards step by step: maximizing performance and maintaining results*. New York: John Wiley & Sons.

Niven, P. R. (2008). *Balanced scorecards step by step for government and nonprofit agencies*. New Jersey: John Wiley & Sons.

Norreklit, H. (2000). The balance on the balanced scorecard - a critical analysis of some of its assumptions, *Management Accounting Research*, 11, 65-88.

Norreklit, H. (2003). The Balanced Scorecard: what is the score? A rhetorical analysis of the Balanced Scorecard. *Accounting, Organizations and Society,* 28, 591–619.

Norreklit, H., Norreklit, Lennert, Mitchel F., and Bjornenak, T. (2012). The rise of the balanced scorecard! Relevance regained? *Journal of Accounting & Organizational Change*, 8(4), 490-510.

Northcott, D., & Taulapappa, T.M. (2012). Using the balanced scorecards to manage performance in public sector organizations. *The International Journal of Public Sector Management*, 25, 166–191.

Northcott, D., and Talapapa, T.M. (2012). Using the Balanced Scorecard to Manage Performance in Public Sector Organizations Issues and Challenges, *International Journal of Public Sector Management,* 25 (3), 166-191.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory.* (3rd ed.). New York, NY: McGraw-Hill, Inc.

Nuti, S., Seghieri, C., & Vainieri, M. (2013). Assessing the effectiveness of a performance evaluation system in a public health care system: some novel evidence from Tuscany region experience. *Journal of Management and Governance*, 17, 59–69.

O'Reilly, C., & Chatman, J. (1986). Organizational Commitment and Psychological Attachment: The Effects of Compliance, Identification, and Internalization on Prosocial Behavior. *Journal of Applied Psychology*, 71(3), 492.

Osbome, D. and T. Gaebler. 1992. *Reinventing government: how the entrepreneurial spirit is transforming the public sector*. Reading, Mass.: Addison-Wesley.

Pal, L.A., & I. Derek, Pal. 2009. The public-sector reform movement: mapping the global policy network. *International Journal of Public Administration*, 32(8), 621-657.

Pang, G. and Gebka, B. (2016). Forecasting container throughput using aggregate or terminal-specific data? The case of Tanjung Priok Port, Indonesia, *International Journal of Production Research*, 55(9), 2454-2469.

Paplexandris, A., Ioannou, G., & Prastacos, G. P, Soderquist, K.E. (2005). An Integrated Methodology Putting the Balanced Scorecards into action. *European Management Journal,* 23(2), 214–227.

Paplexandris, A., Ioannou, G., & Prastacos, G. P. (2004). Implementing the BSC in Greece: a software firm's experience. *Long Range Planning*, 37(4), 351–366.

Paranjape, Bhagyashree ; Rossiter, Margaret ; Pantano, Victor. (2006). Performance measurement systems: successes, failures and future – a review. *Measuring Business Excellence*, 10(3), pp.4-14.

Park, J.H., Lee, J.K., and Yoo, J.S. (2005). A framework for designing the balanced supply chain scorecard, *European Journal of Information Systems,* 14, 335–346.

Park.E.J., and Huber D. L. (2007). Balanced Scorecards for Performance Management, *The Journal of Nursing Administration,* 37 (1), pp 14-20.

Perera, S., McKinnon, J.L. and Harrison, G.L. (2003), "Diffusion of transfer pricing innovation in the context of commercialization: a longitudinal case study of a government trading enterprise", *Management Accounting Research*, 14(2), 140-64.

Perkins, M., Grey, A., and Remmers, H. (2014). What do we really mean by "Balanced Scorecard"?, *International Journal of Productivity and Performance Management*,63(2), 148-169

Perry, J.L. (1996), Measuring public service motivation: an assessment of construct reliability and validity, *Journal of Public Administration Research and Theory*, 6 (1), 5-22.

Perry, J.L. (1997), Antecedents of public service motivation, *Journal of Public Administration Research and Theory*, 7 (2), 181-97.

Perry, J.L. (2000), Bringing society in: toward a theory of public service motivation, *Journal of Public Administration Research and Theory*, 10 (2), 471-88.

Perry, J.L. and Porter, L.W. (1982), Factors affecting the context for motivation in public organizations, *Academy of Management Journal*, 7 (1), 89-98.

Perry, J.L. and Wise, L.R. (1990), "The motivational bases of public service", *Public Administration Review*, 50 (3), 367-73.

Pollitt, C., & G. Bouckaert. (2000). *Public management reform. A Comparative Analysis*. New York: Oxford University Press.

Porter, L., & Steers, R. (1974). Organizational Commitment, Job-Satisfaction, And Turnover Among Psychiatric Technicians. *Journal of Applied Psychology*, 59(5), 603-609.

Prasad, Anshuman, & Prasad, Pushkala. (2002). The coming of age of interpretive organizational research. *Organizational Research Methods*, 5(1), 4-11.

President of Republic Indonesia (2010). *Grand Design Reformasi Birokrasi Tahun 2010-2025*. Presidential Regulation Number 81 Year 2010.

President of Republic Indonesia (2014). *Pembentukan Kementerian dan Pengangkatan Menteri Kabinet Kerja Periode Tahun 2014-2019*. Presidential Regulation Number 121 Year 2014.

Radnor, Z., & Lovel, B. (2003). Defining, justifying and implementing the Balanced Scorecard in the National Health Service, *International Journal of Medical Marketing,* 3(3), 174–188, 2003.

Radnor, Z., and McGuire. M. (2004), Performance management in the public sector: fact or fiction?, *International Journal of Productivity and Performance Management*, 53(3), 245 – 260.

Rainey, H. G., & Steinbauer, P. J. (1999). Galloping elephants: Developing elements of a theory of effective government organizations. *Journal of Public Administration Research and Theory*, 9(1), 1-32.

Rees, C.J. (2013) *Human Resource Management in the Public Sector in Developing Countries*, 37-60. Cheltenham: Edward Elgar.

Reisinger, H., Cravens, K.S and Tell, N. (2003). Prioritizing Performance Measures Within the Balanced Scorecard Framework, *Management International Review*, 43 (4) 429-437.

Rhodes, J., Walsh, P., and Lok, P. (2008). Convergence and divergence issues in strategic management Indonesia's experience with the Balanced Scorecard in HR management; *The International Journal of Human Resource Management*, 19(6), 1170–1185.

Robson, C., & McCartan, Kieran. (2016). *Real world research : A resource for users of social research methods in applied settings*, (4th ed.). Chichester: Wiley.

Rompho,N. (2012). An experiment in the usefulness of a strategy map. *Measuring business excellence,* 16(2), 55-69.

Salterio, S. (2012). Balancing the scorecard through academic accounting research: opportunity lost? *Journal of Accounting & Organizational Change*, 8(4), 458–476.

Saunders, M., Lewis, Philip, & Thornhill, Adrian. (2003). *Research methods for business students* (3rd ed.). Harlow: Financial Times Prentice Hall.

Schobel, K., and Scholey, C. (2012). Balanced Scorecards in education: Focusing on Financial Strategies, *Measuring Business Excellence,* 16, 17-28

Schreiber, J., Nora, A., Stage, F., Barlow, E., & King, J. (2006). Reporting Structural Equation Modeling and Confirmatory Factor Analysis Results: A Review. The Journal of Educational Research, 99(6), 323-338.

Schwab, K. 2013. *The Global Competitiveness Report 2013-2014*. World Economic Forum, Geneva.

Sekaran, U. (2003) *Research methods for business: A skill-building approach*. 3th edition, USA: John Wiley and Sons, Inc.

Sekaran, U., & Bougie, Roger, author. (2016). *Research methods for business : A skill-building approach* (Seventh ed.).

Sharma, B., and Gadenne, David. (2011). Balanced Scorecard Implementation in a Local Government Authority: Issues and Challenges, *The Australian Journal of Public Administration*, 70 (2), 167–184.

Soderberg, M., Kalagnanam, S., & Vaidyanathan, G. (2011). When is balanced scorecards balanced scorecards? *International Journal of Productivity and Performance Management*, 60(7), 688-708.

Speckbacher, G., Bischof, J., & Pfeiffer, T. (2003). A Descriptive Analysis on the Implementation of Balanced scorecard in German-Speaking Countries. *Management Accounting Research*, 361–387.

Srithongrung, A. (2011). The Causal Relationships among Transformational Leadership, Organizational Commitment, and Employee Effectiveness. *International Journal of Public Administration*, 34(6), 376-388.

Statistics Indonesia (2010). Results of 2010 Population Cencus. [online]. Available from: http://sp2010.bps.go.id/. [last accessed 11 May 2018].

Steers, Richard M., and Porter, Lyman W. 1983. *Motivation and Work Behavior*, 3d ed. New York: McGraw.

Steiger, J.H. (2007), Understanding the limitations of global fit assessment in structural equation modeling, *Personality and Individual Differences*, 42 (5), 893-98.

Stein, Jay M. 1986 Public Employee Productivity: Can Outcomes Be Validly Measured at the Jurisdictional Level? *Public Personnel Management*, 15 (2), 111-17.

Tabachnick, B., & Fidell, Linda S. (2007). *Using multivariate statistics* (5th ed.). Boston ; London: Allyn and Bacon.

Tanzi, V. (2000). The role of the State and the quality of the public sector. *Cepal Review* 71, 7-22.

Tapinos, E., Dyson, R.G., and Meadows.M. (2011). Does the Balanced Scorecard Make a Difference to the Strategy Development Process? *Journal of the Operational Research Society*, 62, 888-899 .

Tayler, W.B. (2010). The Balanced Scorecard as a Strategy-Evaluation Tool: The Effects of Implementation Involvement and a Causal-Chain Focus, *The Accounting Review American Accounting Association,* 85(3), 1095–1117.

Taylor, J. (2008). Organizational influence, public service motivation, and work outcomes: An Australian study. *International Public Management Journal*, 11, 67-88

Thietart, A.R. (2001). *Real world research*. Sussex: John Wiley and Sons Ltd.

Ullman, J. B. (2001). Structural equation modeling. In B. G. Tabachnick & L. S. Fidell (Eds.), Using multivariate statistics (4th ed.). Needham Heights, MA: Allyn & Bacon.

UNDP (1997). *Governance for Sustainable Human Development*. UNDP Policy Paper. New York: UNDP.

Vaara, E., Kleyman, B. & Seristo, H. Strategies as discursive constructions: The case of airline alliances. *Journal of Management Studies*, 2004, 41(1), 1–35.

Valerie, D., and Werner, B. (2006). Strategic alignment and middle-level managers' motivation in a balanced scorecard setting, *International Journal of Operations & Production Management*, 26, (3/4), 429-448.

Van Der Zee, J.T.M., and De Jong, B. (1999). Integrating Business and Information Technology Management with the Balanced Business Scorecard, *Journal of Management Information System*, 16(2), 137-156.

Van Thiel,S., & Leeuw,F.L, Pal. 2002. The performance paradox in the public sector. *Public Performance and Management Review*, 25(3), 267-28.

Vandenabeele, W. (2007). Toward a public administration theory of public service motivation. *Public Management Review*, 9(4), 545-556.

Vandenabeele, W. (2011). Who Wants to Deliver Public Service? Do Institutional Antecedents of Public Service Motivation Provide an Answer? *Review of Public Personnel Administration*, 31(1), 87-107.

Verbeeten., F.H.M., (2008),"Performance management practices in public sector organizations", *Accounting, Auditing & Accountability Journal*, 21 (3) pp. 427 – 454.

Voelpel, S. C., Leibold, M., and Eckhoff, R. A. (2006). The tyranny of the Balanced Scorecard in the innovation economy. *Journal of Intellectual Capital*, 7(1), 43-60.

Vroom, Victor. 1964. *Work and Motivation*. New York: Wiley.

Walker, K.B., and Dunn, L.M. (2006). Improving Hospital Performance and Productivity with the Balanced Scorecards. *Academy of Health Care Management Journal*, 2: 85-110.

Walters, M. (1995). *The performance management handbook*. London: Institute of Personnel and Development.

Weibel, A., Rost, K., & Osterloh, M. (2010). Pay for Performance in the Public Sector—Benefits and (Hidden) Costs. *Journal of Public Administration Research and Theory*, 20(2), 387-412.

Werner, L. and Xu, F. (2012). Executing Strategy with the Balanced Scorecard, *International Journal of Financial Research,* (3) (1), 88-94.

Widaman, K. (2003). New Methods for the Analysis of Change. *Applied Psychological Measurement*, 27(3), 236-239.

Wiersma, E. (2009). For which purposes do managers use Balanced Scorecards? An empirical study, *Management Accounting Research*, 20, 239–251.

Wing, B., Guo, L., Li, W., and Yang D. (2007). Reducing conflict in balanced scorecard evaluations, *Accounting, Organizations and Society,* 32, 363–377.

Wisniewski, M., and O´lafsson, S. (2004). Developing balanced scorecards in local authorities: a comparison of experience, *International Journal of Productivity and Performance Management*, 53(7), 602-610.

Witcher, B.J and Chau, V.S. (2008). Contrasting uses of balanced scorecards: case studies at two UK companies, *Strategy Change,* 17, 101–114.

Woods, M., and Grubnic, S. (2008). Linking Comprehensive Performance Assessment to The Balanced Scorecard: Evidence from Hertfordshire county council, *Financial Accountability & Management*, 24(3), 343-361.

Woodward, J. (1965). *Industrial organization, theory and practice*. Oxford.U.P.

World Bank – IEG (2008). *Public Sector Reform: What Works and Why*? World Bank, Washington, DC.

World Bank (2014). Indonesia review. [online]. Available from: http://www.worldbank.org/en/country/indonesia/overview [last accessed 11 May 2018].

World Atlas (2018). *Indonesia – Large Map* [online]. Available from: http://www.worldatlas.com/webimage/countrys/asia/lgcolor/idcolor.htm [last accessed 11 May 2018].

Yang, C-C., Cheng, L-Y., and Yang, C-W. (2005). A Study of Implementing Balanced Scorecard (BSC) in non - profit Organizations: A Case Study of Private Hospital, *Human Systems Management,* 24, 285–300.

Yates, S.J (2004), *Doing social science research*. London: SAGE.

Yetano, A. (2009). Managing Performance at Local Government Level: The Cases of the City of Brisbane and the City of Melbourne, *The Australian Journal of Public Administration*, 68 (2), 167–181.

Yi Wu, H. (2012). Constructing a Strategy Map for Banking Institutions with Key Performance Indicators of the Balanced Scorecard, *Evaluation and Program Planning,* 35, 303–320.

Yin, R. (2009). *Case Study Research: Design and Methods* (4th ed.). London: Sage Publications.

Yuan, F.C., and Chiu, C. (2009). Hierarchical Design of Case-based Reasoning in the Balanced Scorecard Application, *Expert Systems with Applications,* 36, 333–342.

Zikmund, W.G (2003), *Business research method*, 7th edition. Cincinnati, Ohio: Thomson/South-Western.

Compilation of the Balanced Scorecard Implementation Studies

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
1	1997	Alan Butler, Steve R. Letza and Bill Neale	examines the appropriateness of balanced scorecard adoption	Rexam Bowater, PLC London	explorative study	Kaplan and Norton have devised an approach which seems to have overlooked the importance of the corporate mission. What important is that scorecard operationalizes the corporate mission.
2	1999	J.T.M. Van Der Zee and Berend De Jong	Aligns the BSC with the capabilities of IT	2 companies	descriptive case studies	the integrated Balanced Business Scorecard approach, if applied intelligently and with awareness of its limitations, can successfully integrate business and IT planning processes
3	2000	Louise Kloot and John Martin	to understand how performance measurement systems are linked	local government organizations in the State of Victoria, Australia	qualitative, executive directors and managers were interviewed	Managers and employees are actively seeking better accounting and financial information systems to better manage performance. The challenge for policy makers is to recognize the importance of process measures and innovation and learning strategies for genuine, long-term quality improvement in the delivery of value for money services

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
4	2000	Marlys Gascho Lipe and Steven Salterio	effect on performance judgments of the BSC's inclusion of diverse measures.	58 MBA students	experiment laboratory	If unique measures are underweighted in ex post evaluations of the business unit and its manager, these measures are likely to receive little ex ante weight in the unit's decisions (Holmstrom and Milgrom 1991). This focus on common measures undermines one of the major benefits of the balanced scorecards, namely that each business will have and use a score card that uniquely captures its business strategy.
5	2000	Zahirul Hoque and Wendy James	examining the relationship between organization size, product life cycle stage, market position, balanced scorecards usage and organizational performances	66 Australian manufacturing companies	Survey	Significant association between size and balanced scorecards usage, as size increases, organization find it more practical and useful to place greater emphasis on the balanced scorecards that supports their strategic decision making greater balanced scorecards usage is associated with increased organizational performance but this relationship does not significantly depend on organizational size, product life cycle, or market position.
6	2001	Epstein, Marc JV and Wisner, Priscilla S	sustainability strategy	companies	explorative study	The process of developing social and environmental BSC helps managers identify a key performance measure that links their departments' works with strategic objectives.

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
7	2001	Heinz Ahn	elaborating the Balanced Scorecard for a strategic business unit	Worldwide supplier of automation products	Projects based	There are a number of reasons why the introduction of the Balanced Scorecard may fail. Managers considering implementing the concept should therefore consider the limitations as well as the possible benefits of this approach, and further research is necessary in order to help them make the right decision.
8	2001	Lars-G˛ran Aidemark	balance scorecards and the process of governance in health care	Jonkoping County Council, Sweden	interviews and analysis of internal documents	Balanced scorecards replaced the one-sided financial measurement with control mechanisms that not only focused on the balancing judgements of the organization but also on the optimizing judgements. They reduced goal uncertainty, communicated the complex work of professionals to management and politicians and stimulated a new dialogue about vision and strategy. The four perspectives of balanced scorecards formed the frames for discussion and co-operation both within the clinic and in the organization as a whole.

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
9	2001	M. Wisniewski and A. Dickson	to assess the applicability of balanced scorecards in the public sector	Dumfries and Galloway Constabular Police	what and how analysis, discussion, project	The majority of the performance measures were already been collected for other purposes, a number of the measures would need to be established before the initiative was launched rather than afterwards to enable a before-and-after comparison to be made. They accepted that in too many cases the traditional approach was to do it first and worry about measuring it afterwards. The last major area which caused the Unit some difficulty was the judgmental aspects of the Scorecard both in its development and in its later use.
10	2001	Mary A. Malina and Frank H. Selto	to analyze empirical interview and archival data to model the use and assess the communication and control effectiveness of the BSC.	a U.S. Fortune 500 company with more than 25,000 employees	Qualitative semi-structured telephone interviews with individuals directly involved with BSC along with archival data	Managers respond positively to BSC measures by reorganizing their resources and activities, in some cases dramatically, to improve their performance on those measures. More significantly, they believe that improving their BSC performance is improving their business efficiency and profitability. The following factors were found to negatively affect perceptions of the BSC and cause significant conflict and tension between the company and its distributors: 1. Measures are inaccurate or subjective; 2. Communication about the BSC is one-way (i.e., top-down and not participative); and

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
						3. Benchmarks are inappropriate but used for evaluation.
11	2001	Teemu Malmi	aims to find out how BSCs are applied whether BSCs are used as an improved performance measurement system or as a strategic management system	17 organisations known to have adopted balanced scorecards	Qualitative semi-structured interviews	The idea of linking measures together based on assumed cause-and-effect relationships was not well understood by the early adopters of BSCs It appears that the resulting measures and perspectives are fair independent, lacking the currently suggested cause-and-effect logic (see also Laitinen, 1996)
12	2002	D. Irwin	strategy mapping as a tool to develop strategy in a public sector agency and suggests a simplified version which can communicate that strategy effectively, both inside and outside the organisation	UK small business service	Action research	Strategy mapping is just a tool. But it is a very effective tool in ensuring an understanding of the role of strategy and how an effective strategy encompasses all of an organization's activities. Strategy mapping reminds organizations about the different strategic perspectives, and ensures that they are all taken into account. Strategy mapping can be applied at directorate level as well as at organizational level. Whilst a final strategy may well be quite complex, strategy mapping allows (indeed, encourages) organizations to start with a simple view which aids understanding of each of the perspectives and how they relate to each other.

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
13	2002	Norein Inamdar and Robert S. Kaplan	describing motivation, experience and results from the perspective of healthcare executives	9 healthcare provoiders	Survey and interview	There five guidelines for implementing balanced scorecards: 1.Evaluate organization's ability and readiness to adopt balanced scorecards 2. Manage the balanced scorecards development and implementation process 3. Manage the learning before, during and in later stages of the implementation process 4. Expect and support role changes among different constituents 5. Take a system approach.
14	2002	Tommi Kasurinen	the factors and implementation approaches which have made successful change possible	a multinational Finnish based metals group	Action research, Interview	At the early stages of the implementation process, it should also be decided whether the focus of the project should be on the measurement system characteristics or on the management system characteristics of the balanced scorecards (i.e. the cockpit approach versus strategic focus)
15	2003	Christopher D. Ittner David F. Larcker Marshall W. Meyer	the use of subjectivity in reward systems containing multiple performance measures.	North American retail banking operations of Global Financial Services	Quantitative method (Survey data)	Psychology-based explanations may be equally or more relevant than economics-based explanations in understanding measurement practices in some settings. Little evidence that the weights placed on nonfinancial measures had any association with their ability to predict financial performance (our proxy for in formativeness). Most of the weight was placed on quantitative, outcome-oriented

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
						financial measures that were used in earlier bonus plans, results that are consistent with psychology-based predictions.
16	2003	Christopher D. Ittner, David F. Larcker and Taylor Randall	relation between measurement system satisfaction, economic performance, and two general approaches to strategic performance measurement: greater measurement diversity and improved alignment with firm strategy and value drivers.	140 US financial services firms	Quantitative method (Survey data)	Firms making more extensive use of a broad set of financial and (particularly) non-financial measures than firms with similar strategies or value drivers have higher measurement system satisfaction and stock market returns. Greater measurement emphasis and diversity than predicted by our benchmark model is associated with higher satisfaction and stock market performance. Greater measurement diversity relative to firms with similar value drivers has a stronger relationship with stock market performance than greater measurement on an absolute scale. The balanced scorecard process, economic value measurement, and causal business modeling are associated with higher measurement system satisfaction, but exhibit almost no association with economic performance.
17	2003	Gerhard Speckbacher, Juergen Bischof, and Thomas Pfeiffer	analyze the spread, implementation and benefits of the different types of Balanced Scorecards	publicly traded firms in Germany, Austria and Switzerland	Survey method	A significant association of size (measured as the number of employees) and BSC usage; larger companies are more likely to have implemented a BSC (of Types I, II or III). No significant support that size

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
						discriminates between the different BSC Types I–III. Firms belonging to the "consumer & retail" industry are associated with a significantly lower usage of BSC (Types I–III); but no significant association for other industries was found. The expected benefits of BSC use and it provide data about users' satisfaction with respect to BSC types. The analysis of the relationship between the types and the companies' perceived benefits and satisfaction shows that companies implementing a more developed BSC (particularly Type III) rely more on the BSC approach and are more satisfied with their BSC than those with a less developed BSC.
18	2003	Heribert Reisinger, Karen S. Cravens and Nicole Tell	to provide a rationale for the prioritization of measures in the BSC and to suggest a means to accomplish this prioritization	Consulting company	analytic hierarchy process	Changes in priorities over time may indicate a need to evaluate the choice of measures as well as the relation to strategy. It is important to realize that once the BSC is in place, it should continue to function in a dynamic manner to be truly effective. Periodic scheduled reviews are essential in maintaining the relevance of the BSC in relation to strategy. Without such reviews, there is a danger that the BSC will lose its relevance and deteriorate into a bureaucratic mechanism.

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
19	2003	John Griffiths	examines the use of the BSC	one government department and two Crown entities	A multiple-case-study methodology was used with data collected through in-depth structured interviews with the chief executive and other managers familiar with strategic management practices and the use of the balanced scorecards in each case organisation.	There were only limited linkages to goal-setting programs and reward systems, planning and budgeting processes, and learning and growth. The role of the scorecard in strategy development and implementation was closely related to the maturity of an organisation's strategy.
20	2003	Rodney Mcadam And Timothy Walker	to conduct an exploratory study into the use of Balanced Scorecards as an approach to implementing Best Value in UK local government	13 local government authorities	explorative study	The balanced scorecards formation process was effectively combined with the four result areas of the Business Excellence Model giving an effective linkage of initiatives. The 'upwards' and 'downwards' linking of objectives within the organization is crucial to the success of involving management and employees in Best Value.

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
21	2003	Zoe Radnor and Bill Lovell	test the ideas of balanced scorecards in the public sector and specifically the Health Sector	Bradford health sector	research project	The assessment of the BSC system should not be excessively dominated by concerns over the extra resources attributed with BSC implementation. The BSC should not be seen, or made to be, a mere duplication of existing PMSs. In fact, existing PMSs (such as Business Plan derived systems) can be usefully used to populate elements of some of the BSCs. It is key, however, that the BSC is adopted as the one strategic PMS for the organization, with the other systems specifically related to it and shaped by the strategic direction and vision of the organization. The BSC should be adopted in a context sensitive manner, with minimum, yet appropriate resource usage and full organizational support. If this is not done, it would arguably be better not to introduce the BSC system at all.
22	2004	Alexandros Papalexandris,George Ioannou and Gregory P. Prastacos	illustrates and evaluates the main obstacles and shortcomings	Software Development Company	Project	The BSC is a necessary ''good'' for companies. This is especially so when used as a framework and a guideline for successful strategy communication and implementation, and as a system for understanding what really creates value in the company, rather than when it is used as a pure performance measurement system.

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
23	2004	Geert J.M. Braam and Edwin J. Nijssen	how BSC use affects company performance	100 business-to-business companies	Mail survey to Dutch firms	BSC use that complements corporate strategy will positively impact performance. However, mechanistic use without a clear link to corporate strategy will hinder performance may even decrease it. A focus on performance measurement instead of performance management will impede the realization of organizational objectives and may even prove counterproductive by hurting company performance. Thus BSC investments will only pay off if they are in line with strategy, and it is therefore important (i) to map how the BSC is used, and (ii) to evaluate whether BSC application facilitates and complements corporate strategy. The translation of vision and strategy into operational measures is a complicated and dynamic process.
24	2004	Mik Wisniewski and Snjo´lfur O´lafsson	to examine the challenges and difficulties of adopting a scorecard approach	Public sector organizations	Experience of involvement in designing and implementing scorecards in a number of public sector organizations	Using a robust process to develop a strategy map and scorecard can have major tangible and intangible benefits. There has been a genuine acceptance of the scorecard process as one that adds value to what the organization and its constituent services are trying to achieve for their communities. The process requires considerable time and effort, it requires demonstrable

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
						commitment from managers at varying levels and to some extent it requires a change in mindset and thinking.
25	2004	Rajiv D. Banker, Hsihui Chang and Mina J. Pizzini	to assess how individuals' evaluations of the performance of business unit managers depend on strategically linked performance measures of a balanced scorecard	480 students enrolled in the M.B.A. using a clothing retailer	experiment laboratory	Performance evaluations are influenced by strategically linked measures more than non-linked measures only when evaluators are provided detailed information about business unit strategies. The results also confirm Lipe and Salterio's (2000) finding that evaluators rely more on common measures than on unique measures. Evaluators rely more on strategically linked measures than on common measures when they are provided information on strategic linkages, but the reverse relation holds when they are not.
26	2004	Stan Davis and Tom Albright	whether improved financial performance is observed after the implementation of the BSC in a banking institution, investigating whether bank branches implementing the Balanced Scorecard (BSC) outperform bank branches within the same banking	A banking organization in banking organization located in the southeastern United States	quasi-experimental study	BSC method can promote improved financial performance when compared to a traditional performance measurement system focusing solely on financial measures. By incorporating a group of NFMs into the performance measurement system in a logical and systematic manner, a group of branches outperformed another "control" group on a financial metric important to both sets of branches. One possible explanation may be the lack of a coherent linkage between the measures chosen for the performance

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
			organization on key financial measures			system and the targeted financial measure of interest.
27	2004	Theresa Libby, Steven E. Salterio and Alan Webb	Whether increasing effort via invoking process accountability and/or improving the perceived quality of the balanced scorecard measures increases managers' usage of unique performance measures in their evaluations.	78 MBA Students, WCS Inc. retail firm	experiment laboratory	Senior management should require divisional managers to justify their performance evaluations when employing BSCs containing both common and unique performance measures. Either of these approaches increases the likelihood that managers will use all relevant information contained in the balanced scorecards in making performance evaluation judgments.
28	2004	Yee-Ching Lilian Chan	Whether its implementation of balanced scorecards has been successful.	municipal governments in the USA and Canada	Quantitative (survey data)	The most frequently cited factors necessary for its implementation to succeed include: . top management commitment and leadership buy-in; . departmental, middle-manager and employee participation and buy-in; . culture of performance excellence; . training and education; . keeping it relatively simple, easy to use and understand; . clarity of vision, strategy and outcome; . link of balanced scorecard to incentive; and

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
						. resources to implement system. Thus, support from senior management and buy-in from employees are critical to implementing the balanced scorecard successfully. In addition, organizational strategy must be defined and tied to incentive for its implementation to succeed.
29	2005	Alexandros Papalexandris, George Ioannou, Gregory Prastacos And Klas Eric Soderquist	comprehensive framework, which will cover the important aspects of a Balanced Scorecard synthesis and hence can serve as a guideline for implementations	Projects	exploratory study	Company specific factors, such as size, strategy, resources etc., requiring deviations from the proposed methodology, will always need to be considered while implementing a balanced scorecards. Most organizations seem to agree that a balanced scorecards implementation will be beneficial, one must not overlook the fact that its effectiveness and benefit is highly dependent on the content of the implementation process that is used.
30	2005	Ching-Chow Yang, Lai-Yu Cheng, and Chih-Wei Yang	to examine the feasibility of the implementation of balanced scorecards for nonprofit organizations, and develops an implementation framework of balanced scorecards	Hospitals	Participation observation and in-depth interviews	There are two points needed to be noticed, the first is how much time should be spent l; how many resource will be provided; the organization's scale and complication in the balanced scorecards; the second is to develop the balanced scorecards information system management tool.

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
31	2005	HA Akkermans and KE van Oorschot	illustrates how, through their involvement in this development process, management came to understand that seemingly contradictory goals such as customer satisfaction, employee satisfaction and employee productivity were, in fact, better seen as mutually reinforcing	a business unit of the Dutch insurer Interpolis	system dynamics (SD) modelling and simulation	The BSC concept helpful to arrive at a list of financial and non-financial performance measures, which seen as the most important ones.
32	2005	J. Michalska	Measurement of firm effectiveness	Polish steel works	exploratory study	The Balanced Scorecard being the useful tool in supporting management processes, it permits the estimation of a firm through different perspectives (financial, customers, internal processes, knowledge and development) through which are equalized many aims and opinions. This method is unique, mostly due to two elements: it brings all workers closer to a strategy and permits the estimation of the degree of realization of this strategy and firm's working not only through the financial results

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
33	2005	Jong Han Park , Jae Kyu Lee and Jung Soo Yoo	proposes a framework for the Balanced Supply Chain Scorecard	Company	Structured Interviews and exploratory	BSC is useful for supply change management process and the importance of BSC depends significantly on the product characteristics.
34	2005	William N. Dilla and Paul John Steinbart	investigate whether decision makers who have had training and experience in designing BSCs ignored measures that reflect the unique strategy of a business unit and based their performance evaluations solely on measures common across units	undergraduate accounting and information systems majors	experiment laboratory	Decision makers who are knowledgeable about the balanced scorecards attended to both common and unique measures, but placed greater emphasis on the former
35	2006	Jennifer S. Holmes, Sheila Amin Gutiérrez de Piñeres, and L. Douglas Kiel	explores the applicability of the model to government organizations in developing countries.	City of Charlotte, North Carolina, Washington State, UK, Sweden Australia and New Zealand	exploratory study	An application of the balanced scorecards to public agencies is particularly appropriate for complex, transparent, and mature organizations with diverse stakeholders. To be effective, the strategic planning process should be adapted to the particular needs and goals of each organization to identify appropriate perspectives.

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
36	2006	Kenton Walker B. and Laura M. Dunn	Usefulness of BSC improving hospital management and delivery of healthcare	Hospitals	explorative study	Implementation of balanced scorecards along with some creativity initiative and cooperation among hospital employees, customers and consumers can improve the management and delivery of healthcare at reduced cost and without loss of quality.
37	2006	Valerie Decoene and Werner Bruggeman	cascading process	a Danish company producer of polyolefin plastic	Interviews	Effective strategic alignment calls for the active involvement of manufacturing executives in the balanced scorecards design and implementation process. Effective strategic alignment empowers and motivates manufacturing executives. A combination of effective strategic alignment and a BSC-based compensation plan has a positive effect on the extrinsic motivation of manufacturing executives

Number	Year	Authors	Main Features of the Study	Settings	Methodology	Findings/Conclusion
38	2006	Yee-Ching Lilian Chan	BSC judgment biases, information overload, and the synthesis of information.	12 hospital in Canada	Analytic Hierarchy Framework	With multiple goals and measures in the BSC, information overload may force the decision maker, either consciously or subconsciously, to apply an ad hoc weighting to the data to achieve some overall, comprehensive measure to use for comparative purposes. The analytic hierarchy process provides a structure as well as an algorithm to develop such a comprehensive measure.
39	2007	Bernard Wong-On-Wing , Lan Guo, Wei Li , Dan Yang	conflict between top management and divisional managers because of the failure of the former to evaluate and consider strategy effectiveness in performance evaluation	63 evening MBA students	experiment laboratory	Reducing top management's bias may in addition increase the effectiveness of the balanced scorecards as a strategic management system. In evaluating divisional performance, emphasizing the effectiveness of the strategy may facilitate the identification of its limitations, and consequently, highlight the need for its revision.
40	2007	Eun-Jun Park and Diane L. Huber	Balanced scorecards benefits and practical concerns	Hospitals	literature review	To successfully measure and manage performance using the scorecard, 1) unique strengths and principles of the scorecard should be understood and established, 2) administrative leadership and participation from all levels in an

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						organization is essential, 3) information systems need to be designed to incorporate the scorecard, and 4) participants 'performance feedback should be provided and strategies for success refined.
41	2007	Meena Chavan	exploring issues that organizations face in building and implementing scorecard systems, and sharing lessons learned from Australian organizations that have taken the balanced scorecard journey	Company	Literature review	The balanced scorecard approach may require some substantial changes in culture within the organization. The balanced scorecard requires understanding, commitment and support from the very top of the business down. As culture changes and develops to accept the new approach and members of the organization mature within the new culture, the organization will find new things to measure, new goals in different areas, to make the balanced scorecard even more balanced and effective in supporting a living, growing, viable organization. Different organizations have quite different needs, market areas, people, products and services, and will end up with significantly different balanced scorecards.

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42	2007	Richard Greatbanks and David Tapp	The impact of scorecards over this time at three levels: internal planning processes and the development of measures; the effect of scorecards on internal team management processes and the impact upon the individual staff, and their actual achievement of performance objectives and goals.	A public service city council	A case study	The use of scorecards within the case organization enables employees to clearly appreciate their role, and focus on delivery of performance-related measures which support organizational strategy. Clarity of role appears to have a positive influence on the achievement of the organization's business plan and excellence goals regarding the delivery of customer service
43	2007	Yee-Ching Lilian Chan	strategy maps and balanced scorecards	Ontario Health Quality Council	exploratory study	Buy-in and collaboration from different institutions within the health system are key to fully recognizing the value of implementing strategy maps and balanced scorecards in the healthcare sector.
44	2008	Aaron D. Crabtree and, Gerald K. DeBusk	the relationship between balanced scorecards adoption and shareholder returns	Member of Institute Management Accountants	Survey data	Over the three-year post-adoption period, balanced scorecards adopters outperformed their industry counterparts who chose not to adopt the balanced scorecards by 27–30 percentage points. The results are robust to various matching criteria. There is also evidence that firms earn greater excess returns after adoption

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						of the balanced scorecards than before. These results provide strong evidence that the balanced scorecards is an effective strategic management tool that leads to improved shareholder returns.
45	2008	Barry J. Witcher and Vinh Sum Chau	How different balanced scorecard approaches can complement each other for effective strategic management.	EDF Energy and Tesco	Workshops, conceptual paper	Large and complex organizations must facilitate a devolvement of strategic decision-making across multidivisional structure. However, there is evidence from research concerning multinational organizations that they are becoming more focused on managing from the center than on local initiatives. It is 'managing' that the center is influencing, not the local decisions themselves. The emphasis is on how an organization as a whole can use, and does use, business methodologies and management philosophies

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46	2008	Bruce Gurd and Tian Gao	to show how the balanced scorecard has been a prominent innovation in strategic performance measurement systems	health sector	Literature review	balanced scorecard in healthcare organizations presents a different picture to other industries in relation to the range of perspectives, with people and community as their different perspectives. An improvement in efficiency is a limited perspective in the healthcare industry because in practice they have to balance efficiency and fairness, and balance between cost, quality, access, and consumer choice (Inamdar and Kaplan, 2002). This is a significant difference between healthcare and other industries.
47	2008	Carmine Bianchia and Giovan Battista Montemaggiore	how the use of "dynamic" balanced scorecards can significantly improve the planning process in a strategic learning perspective	city water company	Case study	Strategic mapping and simulation through the system dynamics methodology has proved to successfully enhance managers learning and capability to identify causal relationships between policy levers and company performance, and better communicate strategy with stakeholders.
48	2008	Dobrovic, Zeljko ; Tomicic, Martina ; and Vrcek, Neven	The precondition for successful implementation of the balanced scorecards method in the public sector	none	exploratory study	Preconditions to be successfully implemented and effectively applied in public sector organizations are: (1) guidelines and strategic goals sent by the government to state and public organizations need to be clear and unambiguous; (2) a public organization's management needs to have an insight into the application of the balanced scorecards method and partly

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						change their managerial habits; (3) operative procedures of the application of the balanced scorecards method in an organization need to be clearly defined; (4) an organization needs to have a central information system (is) to which the application/software that the balanced scorecards model is to be implemented in will be connected.
49	2008	Jo Rhodes, Paul Walsh and Peter Lok	how divergent factors such as national culture, leadership styles, organizational culture and human resource management practices can influence Asian context Balanced Scorecard implementations	Central Bank	explorative study	Four areas need close attention when Asian firms implement strategic management systems: 1. conflict avoidance in relation to performance appraisal and rewards; 2. the depth of feedback given to staff around performance issues; 3. organizational fear of metrics; and 4. high power distance and conformity.
50	2008	Margaret Woods and Suzana Grubnic	potential benefits (and problems) of using the balanced scorecards in a public sector context	Hertfordshire County	Interviews	Balanced scorecards system has helped to focus on outcomes rather than outputs as indicators of operational effectiveness. The cascading down of the balanced scorecards approach through the organizational hierarchy can potentially help overcome the resistance to change that marks out many public sector organizations (Chan, 2004) by negating

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						the risk of a management system that is divorced from the core service being provided
51	2008	Wen-Cheng Chang , Yu-Chi Tung , Chun-Hsiung Huang & Ming Chin Yang	assess both direct and indirect outcomes of BSC	Mackay Memorial Hospital	explorative study	The comprehensive process of implementing the BSC began as, and continues to be, an excellent performance and strategic management system for board members and senior management
52	2008	Yulia Kasperkaya	to describe the city councils' experience with the balanced scorecards and to interpret this in the light of institutional theory	2 city councils	Interviews	Organizations may employ diverse tactics when building their formal structures and therefore new rules which are designed in conjunction with existing organizational routines and are flexible in their format, are shown to have a greater chance of winning managerial acceptance. Both efficiency and legitimacy seeking reasons may underlie the decision to adopt strategic performance measurement models by public organizations.

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53	2009	Ana Yetano	to understand the implementation and structure of performance management systems at local government level	Brisbane and Melbourne	The case studies use multiple sources for collecting the data, including interviews, documentation, direct observation and participant observation	The successful adoption of performance management techniques is highly influenced by the momentum for change, administrative culture and the search for prominence.
54	2009	Chwan-Yi Chiang and Binshan Lin	Attempted to develop an integrated framework to encompass the basic concepts of balance scorecards and data envelope analysis (DEA) for measuring management performance.	The auto and national commercial bank industries	data envelope analysis	The interrelationships between the four perspectives of balanced scorecards proposed by Kaplan and Norton (1996) were further empirically shown to be valid in the auto and commercial bank industries. Specifically, the learning and growth perspective was significantly related to the internal business process perspective, which in turn was positively related to the customer perspective. And the customer perspective was positively related to the financial perspective. In addition, the relationship between customer perspective and financial perspective was the most significant among the interrelationships of balanced scorecards.

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55	2009	Deborah F. Beard	successfulness of balanced scorecards implementation	the Kenneth W. Monfort College of Business at Northern Colorado and at the University of Wisconsin	experiment laboratory	balanced scorecards, as a strategy-based management system, enables not only business organizations but also educational institutions to clarify their visions and translate strategies into operational objectives, measures, and actions in alignment with their missions and core values. The process of establishing the balanced scorecards provides the opportunity for identifying what really matters to customers and stakeholders: why the institution exists, what is important to the institution, and what the institution wants to be.
56	2009	Eelke Wiersma	purposes of the balanced scorecards at the individual manager level	19 Dutch firms	Survey Method	Purposes of balanced scorecards usage: for decision-making and decision-rationalizing, for coordination of activities within the organizational unit, and for self-monitoring purposes.
57	2009	Fabien De Geuser, Stella Mooraj and Daniel Oyon	how the balanced scorecards enhances organizational performance	24 organizations	Quantitative (survey)	Balanced Scorecard has a positive impact on organizational performance. More specifically, the BSC improves the integration of the management processes and empowers people. The sources of performance derived from the balanced scorecards are: (1) a better translation of the strategy into operational terms, (2) the fact that strategizing becomes a continuous process, and (3) the greater

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						alignment of various processes, services, competencies and units of an organization.
58	2009	Federica Farneti	to follow the implementation of a specific balanced scorecards model in an Italian local government organization, so that lessons can be learned for other organizations seeking to implement a balanced scorecard	Italian Local government	Action research	balanced scorecards was used to: implement strategic control, evaluate action undertaken during the year and therefore establish action for future improvements and Fulfil the legislative requirement of strategic control.
59	2009	Fong-Ching Yuan , Chaochang Chiu	Proposing the GA-based approach to determine the fittest weighting values for improving the case evaluation accuracy.	Company	Case Based Reason methods	Using case based research balanced scorecards can help managers in doing performance evaluation more efficiently and correctly. Once the model is established, the weights can be generated easily by computer automatically without any questionnaires and decision-makers' judgments. The managers can review, evaluate, and justify their decisions through intranet, which can streamline the performance evaluation process, then helps e-business growth.

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60	2010	Bernardo Guimarães, Pedro Simões and Rui Cunha Marques	The potential for the application of the balanced scorecards methodology into the waste utilities	urban waste sector in Portugal	explorative study	The balanced scorecards appears as a tool easy to use and simple to read that can be implemented either by the management board alone or with the help of a dedicated team able to go across all the four perspectives within the waste utility. However, the balanced scorecards success relies on good data quality and on how straightforward data is collected, as it maintains the information updated.
61	2010	Dorothea Greiling	gain additional, exploratory insight into the experience non-profit organizations have had with the balanced scorecard.	20 organizations in German	(Qualitative) Interviews	Most of the non-profit organizations which have been analyzed in this paper are in an early phase of balanced scorecard implementation. The balanced scorecard is often used as a measurement tool and not as a management system. In most cases, participating organizations have an unexpected viewpoint with regard to their attitude towards the balanced scorecard, as they did not sufficiently adapt it to the distinct requirements of non-profit operations
62	2010	Eddy Cardinaels a, Paula M.G. van Veen-Dirks	how the organization and presentation of performance measures affect how evaluators weight financial and non-financial measures	144 students	experiment laboratory	Firms should carefully consider how to present and organize measures to get the intended effect on performance evaluations.

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			when evaluating performance.			
63	2010	Kalle Kraus, Johnny Lind	adoption of the corporate balanced scorecard and its impact on corporate control of business units.	15 Multinational companies in Sweden	Interviews	Corporate balanced scorecards had little impact on control at the corporate level. Corporate control was financially focused in all the companies: mainly financial measures were important, standards were only set for financial measures and rewards were largely based on financial performance measures
64	2010	Kent Nilsson	to explore what actors in a Swedish municipality expect from a new administrative reform (i.e., an attempt to implement the balanced scorecards)	Municipality (13 Actors)	In depth Interview	The expectations on changes are highest among the politicians, moderate among the administrators, and lowest among the operative employees.
65	2010	Laurie L. Burney and Nancy J. Swanson	Whether the perspective framework and the strategy link influence managers' behavior.	accounting managers in balanced scorecards firms	survey data collected	A strong, positive relation between job satisfaction and managers' perceptions of the strength of the linkage between performance measures and organizational strategy. The inclusion of non-financial measures in some balanced scorecards categories is positively related to

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						managers' job satisfaction and, therefore, may encourage a long-term decision-making focus. The development of a decision rule to be used when applying survey methodology that allows the researcher to identify organizations that use a balanced scorecards.
66	2010	Michael Burkert, Antonio Davila, Daniel Oyon	to substantiate the claim for more empirical studies on performance implications of balanced scorecards use and to derive recommendations how to conduct such research effectively	not mention	Literature review	Found both, important evidence for positive effects of some of the elements constituting the BSC and results that shed a more critical light on the expected benefits stemming from its constituting practices. Such evidence only exists in smaller settings of large companies with different branches; thus, it can hardly be generalized
67	2010	William B. Tayler	investigates whether involvement in scorecard implementation can mitigate the effects of motivated reasoning that occur when the scorecard is framed as a causal chain rather than merely as a balanced set of measures	M.B.A. students	experiment laboratory	A causal view of the scorecard, in conjunction with involvement in scorecard measure selection, helps overcome psychological forces that are likely to limit scorecard effectiveness. Increased managerial involvement in the selection of scorecard measures can counter motivated reasoning, thereby reducing the likelihood that managers will view unsuccessful strategies as successful.

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68	2011	Bishnu Sharma and David Gadenne	investigates whether the implementation of a balanced scorecards has been of value	local government authority	Qualitative (Interviews)	Problems in relation to each of the seven major themes encompassing the planning phase; deployment, assessment and review; leadership and motivation; communication mechanisms; measurement techniques; reward and incentive schemes; and transferability to other internal public sector divisions.
69	2011	Chia-Ling Lee, Huan-Jung Yang	the organization structure and competition on the design of performance measurement systems (PMSs) and their joint effects on performance.	667 firms listed on the Taiwan Stock Exchange	Survey data	Organization structure is significantly associated with the design of PMSs. Compared to mechanistic organizations, organic organizations make greater use of integrated measures and the higher developmental stages of PMSs. The findings also partly support the presence of joint effects on performance involving organization structure, competition, and the use of PMSs. When there is greater competition among firms, a positive relationship between the stages of PMS development and performance is of higher significance. The use of integrated measures is more relevant with respect to organizational performance in mechanistic organizations than in organic ones.
70	2011	D. Jordan Lowe, Salvador Carmona-Moreno and Philip M.J. Reckers	examine the role of strategy maps in communicating goals and strategy	165 MBA	experiment laboratory	An integrated strategy map able to counter a documented short-term financial outcomes fixation/bias and thereby apply a levelling process such that equivalent ratings were forthcoming to

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						managers with equivalent overall scores. It may not always be intuitive as to which individuals may be more or less receptive to the influence of strategy maps.
71	2011	E.Tapinos, RG Dyson and M Meadows	to examine the impact of balanced scorecards upon the strategy development process.	4000 members of the alumni database of Warwick Business School	Survey	Even though the balanced scorecards users tend to place more emphasis in all elements of the strategy development process, the difference is not always significant. As balanced scorecards users also typically use several other tools, the study does not support the view that the balanced scorecards is a comprehensive management tool.
72	2011	Kerry A. Humphreys and Ken T. Trotman	to test the generalizability of the findings on the common measures bias and the impact on the common measures bias of communicating strategy information	103 Executive M.B.A. students from a major Australian university	experiment laboratory	If all measures are strategically linked, does not eliminate the common measures bias if strategy information is not provided. The common measures bias is consistently eliminated when strategy information is provided and all measures are strategically linked.

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73	2011	Marvin Soderberg, Suresh Kalagnanam, Norman T. Sheehan and Ganesh Vaidyanathan	Aims to develop and test a five-level taxonomy to classify firms' performance measurement systems.	149 organizations	descriptive research methods	Senior management involvement in the implementation process was higher in balanced scorecards firms; a smaller number of balanced scorecards firms reported their performance measurement systems as being contaminated with inappropriate measures and/or measures not linked in cause-effect relationships; more balanced scorecards firms reported explicit links between traditional management controls systems like the budget and the balanced scorecards; more balanced scorecards firms tended to view their performance measurement systems as a success; and finally, fewer balanced scorecards firms tended to perceive their ROE performance as inferior to their competitors. These results provide some indirect support to the conclusion that balanced scorecards firms are more likely to experience the benefits envisioned by Kaplan and Norton from adopting the balanced scorecards, since the characteristics of comparison between the balanced scorecards and non-balanced scorecards firms are very likely correlated with success.

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74	2011	Rajiv D. Banker, Hsihui Chang and Mina Pizzini	investigate whether a supplemental information display, in the form of a strategy map, results in performance evaluation judgments consistent with the recognition of relations between performance metrics and strategy	180 MBA students	experiment laboratory	Performance evaluation decisions are more consistent with the achievement of strategic objectives when participants are provided with strategy maps.
75	2011	Salvador Carmona , Govind Iyer and Philip M.J. Reckers	biases related to self-interests and national culture persist in the presence of two common strategy maps	140 MBA students from Spain and the U.S.	experiment laboratory	Subjects from individualistic cultures tend to respond differently from subjects from collectivist cultures to a balanced scorecards initiative; importance of well-designed strategy maps if a firm is to truly reap the benefits of the high implementation costs of a balance scorecard initiative. A representationally faithful rendering of a common strategy map (Pyramid map) prompted greater preference for a project proposal that exhibited greater short term financial outcomes than did a second strategy map which included the same goals and metrics.

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76	2011	Shujun Ding and Philip Beaulieu	links balanced scorecards -related biases, affect, and MCS literature.	One hundred and four MBA students	experiment laboratory	Mood congruent judgments are a reliable phenomenon in an application of the BSC. Financial incentives successfully eliminate mood congruency bias when simplified balanced scorecards with only eight measures, but retaining four perspectives, is employed. mood congruency bias occurs even when only two financial measures are used for evaluation purposes also provides supporting evidence that information load is an important issue to consider in the context of performance evaluations, as the evaluation task itself is complex and cognitively difficult.
77	2011	Zahirul Hoque and Carol Adams	addresses the paucity of prior research in the area of performance measurement in government institutions providing insights into the differences between the public and private sector	Australian Governments	survey data	Government departments make use of balanced scorecard measures for both external compliance (required by government mandates) and internal management purposes). The balanced scorecard performance measures were perceived by government departments to enhance their programme efficiency and programme effectiveness. A positive association between balanced scorecards implementation and managers' perceived benefits of the balanced scorecards system.

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78	2012	Barnabe, F., and Busco, C.	to speculate on the potentials of the system dynamics methodology to contribute to the balanced scorecard design and implementation by producing a detailed causal relationships model that links strategic and operational objectives	not mention	system dynamics (SD) modelling and simulation	By building on the existing literature on SD, we have subsequently illustrated the main characteristics of this methodology and, in particular, we have stressed the potentialities of using SD to more broadly explore the concept of causality in balanced scorecards and, consequently, better understand the links between performance drivers and outcomes.
79	2012	Deborah Agostino and Michela Arnaboldi	relationships between design characteristics and PMS use indicate	companies	exploratory case-study approach	Drawing on a multiple case study, this work explores the interaction between balanced scorecards design and use, conceptualizing PMS design as the ''what'' dimension and PMS use as the ''how'' dimension. The ''what'' embraces the technical features managers choose when implementing a PMS, while the ''how'' concerns the control style associated with the information provided by the PMS. Findings indicate that such an interaction indeed exists: BSCs used diagnostically are characterized by a prevalence of financial measures, absence of cascading, explicit targets, and no link with the reward system.

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80	2012	Deryl Northcott and Tuivaiti Ma'amora Taulapapa;	aims to examine the use of the balanced scorecard as a performance management tool in the public sector. Drawing on a New Zealand study of local government organizations (LGOs), it seeks to identify issues and challenges in implementing the balanced scorecards in public sector contexts	73 Local Governments Organizations in New Zealand	A postal questionnaire and follow-up interviews with selected respondents allowed for more in-depth exploration of managers' experiences of balanced scorecards use and outcomes	Perceived balanced scorecards utility is dominated by performance measurement and reporting, while the performance management role of the balanced scorecards remains relatively underexploited. Identified users' perceptions of the key challenges impeding balanced scorecards implementation in the public sector, and highlights their significance for both practice and theory.
81	2012	Hanne Nørreklit, Lennart Nørreklit, Falconer Mitchell and Trond Bjørnenak	to explore whether the BSC methodology promotes increased scholarly methodological basis for practice or, in fact, continues to represent a mythical approach to the management discipline	None	discourse analysis	Reveals that the balanced scorecards is defined in a way that can provide management with a type of general overarching model. However, the model lacks realistic scholarly characteristics and instead it exhibits characteristics of a myth speech genre. This is especially so in the presentation of the central concern with cause-effect statements in the balanced scorecards.

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82	2012	Hung-Yi Wu	structural evaluation methodology to link key performance indicators (KPIs) into a strategy map	Banking institution	Decision Making Trial and Evaluation Laboratory method	The proposed strategy map with the relative influential strengths of KPIs can provide a reference of priority for management in determining strategic improvement paths. Moreover, in addition to weighing the influence among KPIs, management is advised to link up the organization's strategies with its competencies and to further transform the strategies into significant tasks and results-oriented program services and supports (Hamel & Prahalad, 1996a; Schalock & Bonham, 2003).
83	2012	Kurt Schobel and Cam Scholey	the use of the Balanced Scorecard in a higher education distance learning environment, and to highlight the importance of financial strategies	Royal Military College of Canada	experiment laboratory	Higher education organizations with well-defined financial strategies that are linked to educational outcomes will be well positioned for success even as their funding models change
84	2012	Mandy M. Cheng and Kerry A. Humphreys	causal linkages between strategic objectives in the strategy map and performance measures	89 graduate students enrolled in an advanced managerial accounting course	experiment laboratory	The balanced scorecards framework has broader implications for organizational decision-making. By clearly articulating an organization's strategy to managers, the strategy map allows managers to form a more useful cognitive representation through which external information items can be interpreted and incorporated in strategic judgments

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85	2012	Michael L. Werner and Fuyuan Xu	strategy execution	not mention	explorative study	The balanced scorecard helps enterprise leaders manage their operations and helps them execute their strategy. Strategy maps help inform employees of the company's strategy and objectives. However, even if employees are aware of the company's strategy and its objectives, they will generally do little to achieve strategy execution.
86	2012	Niels Dechow	how further empirical research may be advanced, which differentiates more clearly what we study when exploring balanced scorecards work	training program	a discussion of observations	The ways in which managers disconnect the balanced scorecards objects and concept are everything but benign.
87	2012	Nopadol Rompho	the effect of a strategy map on the quality of decision making	24 MBA students	experiment laboratory	The results show that strategy maps do not affect the performance of participants' decision making.
88	2013	Arwa Yousuf Al-Aama	strategic objectives as a nonprofit function of a public service organization	Jeddah Municipality (JM) IT Department	explorative study	The adaptation of the JM balanced scorecards variation can be used as a model for other public service organizations in strategy management and performance evaluation. Furthermore, the JM IT Strategy is managed using the JM IT balanced scorecards. It has been used for the past three years and has been a very valuable tool.

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89	2013	Benjamin Dreveton	the scorecard creation process itself	a French public sector	case study method	The balanced scorecards provided a reason to clarify organizational strategy; to improve how this organization works and to develop a new role for the controller. The balanced scorecards project provided an opportunity to innovate.
90	2013	LI Me and WU Jiang	particularity and difficulties of government departments applying balanced scorecards	local governments	comparative analysis	The balanced scorecards is of great significance for the government performance management innovation mode. Local governments should regard service-oriented government as the strategic target to practice the balanced scorecards, and construct performance management index system of mutual promotion and development, including four dimensions of the public service ability, financial, and learning and growth around the basic principle of public satisfied.
91	2013	Sangjae Lee, Sung Bum Park and Gyoo Gun Lim	causal relationships among the four balanced scorecards measurements	Small & Medium Business Administration in Korea	Quantitative (survey data)	The balanced scorecards effectively assess four causally interrelated measures, namely learning and growth, internal business processes, customer performance, and financial performance, supporting the core premise of the balanced scorecards.
92	2014	Behrouzi, Farshad ; Shaharoun, Awaluddin and	Four critical attributes of each article were analyzed, including	health sector	Literature review	The results showed that 'internal business process' was the most notable balanced scorecards perspective as it was included

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		Ma'Aram, Azanizawati	balanced scorecards generation, performance perspectives, performance indicators and auxiliary tools			in all reviewed articles. The cascaded balanced scorecards is a useful form of the balanced scorecards to facilitate performance measurement and strategic management processes within such large organizations. Strategic alignment and implementing organizational strategies using the balanced scorecards has been taken into consideration by healthcare executives in recent years.
93	2014	Dag Øivind Madsen and Tonny Stenheim	The perceived benefits of balanced scorecards implementation and usage.	consultants and users in Scandinavian countries	a largely qualitative and interpretive approach	Both consultants and users mostly highlighted benefits related to social and organizational processes, and not the 'technical' aspects of the concept. Many of the benefits are related to more indirect organizational and behavioral effects.

Research Setting Comparison

Number	Year	Authors	Sectors	Organization Level Observed	Country	Classification of Countries (based on April 2011 World Economic Outlook 2011)*
1	2000	Hoque and James	Sixty six manufacturing companies	One level	Australia	Advanced Economy
2	2000	Kloot and Martin	local government organizations in the State of Victoria	One level	Australia	Advanced Economy
3	2001	Ahn	Worldwide supplier of automation products	One level	Germany	Advanced Economy
4	2001	Aidemark	Jonkoping County Council	One level	Sweden	Advanced Economy
5	2001	Epstein and Wisner	companies	One level	Norway, USA and UK	Advanced Economy
6	2001	Malina and Selto	a U.S. Fortune 500 company with more than 25,000 employees	One level	USA	Advanced Economy
7	2001	Malmi	Seventeen organisations known to have adopted balanced scorecards	One level	Finland	Advanced Economy
8	2001	Wisniewski and Dickson	Dumfries and Galloway Constabular Police	One level	Scotland	Advanced Economy
9	2002	Inamdar and Kaplan	Nine healthcare provoiders	One level	USA	Advanced Economy
10	2002	Irwin	Small business service	One level	UK	Advanced Economy
11	2002	Kasurinen	A multinational Finnish based metals group	One level	Finland	Advanced Economy

Number	Year	Authors	Sectors	Organization Level Observed	Country	Classification of Countries (based on April 2011 World Economic Outlook 2011)*
12	2003	Speckbacher, et al	publicly traded firms	One level	Germany, Austria and Switzerland	Advanced Economies
13	2003	Griffiths	One government department and two Crown entities	One level	New Zealand	Advanced Economy
14	2003	Ittner, et al	140 US financial services firms	One level	USA	Advanced Economy
16	2003	Mcadam and Walker	Thirteen local government authorities	One level	UK	Advanced Economy
17	2003	Radnor and Lovell	Bradford health sector	One level	UK	Advanced Economy
18	2003	Reisinger, et al	Consulting company	One level	European country	Advanced Economy
19	2004	Braam and Nijssen	100 business-to-business companies	One level	Netherlands	Advanced Economy
20	2004	Chan	municipal governments	One level	USA and Canada	Advanced Economy
21	2004	Davis and Albright	A banking organization in banking organization located in the southeastern United States	One level	USA	Advanced Economy
22	2004	Papalexandris, et al	Software Development Company	One level	Greece	Advanced Economy
23	2004	Wisniewski and O´lafsson	Public sector organizations	One level	Scotland and Iceland	Advanced Economy

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24	2005	Akkermans and van Oorschot	A business unit of the Dutch insurer Interpolis	One level	Netherlands	Advanced Economy
25	2005	Chow Yang, et al	Hospitals	One level	Taiwan	Emerging Economy
26	2005	Michalska	A company of steel works	One level	Poland	Emerging Economy
27	2005	Park ,et al	Company	One level	Korea	Emerging Economy
28	2006	Chan	Twelve hospitals	One level	Canada	Advanced Economy
29	2006	Decoene and Bruggeman	A company producer of polyolefin plastic	One level	Denmark	Advanced Economy
30	2006	Holmes,et al	City of Charlotte, Washington State, thirteen Local government of UK, Swedish National Police Board, New Zealand crown cities, and State of Victoria	One level	USA, UK, Sweden Autralia and New Zealand	Advanced Economy
31	2007	Chavan	Company	One level	Australia	Advanced Economy
32	2007	Greatbanks and Tapp	A public service city council	One level	New Zealand	Advanced Economy
33	2007	Lilian Chan	Ontario Health Quality Council	One level	Canada	Advanced Economy
34	2007	Park and Huber	Hospitals	One level	USA	Advanced Economy
35	2008	Gurd and Gao	Health sector	One level	USA, UK, Sweden, Australia, New Zealand, Canada and Taiwan	Advanced Economies except for Taiwan (Emerging Economy)
36	2008	Bianchia and Montemaggiore	City water company	One level	Italy	Advanced Economy

Number	Year	Authors	Sectors	Organization Level Observed	Country	Classification of Countries (based on April 2011 World Economic Outlook 2011)*
37	2008	Crabtree and,DeBusk	Member of Institute Management Accountants	One level	USA	Advanced Economy
38	2008	Kasperkaya	Two city councils	One level	Spain	Advanced Economy
39	2008	Witcher and Chau	EDF Energy and Tesco	One level	UK	Advanced Economy
40	2008	Woods and Grubnic	Hertfordshire County	One level	UK	Advanced Economy
41	2008	Cheng Chang , et al	Mackay Memorial Hospital	One level	Taiwan	Emerging Economy
42	2008	Rhodes, et al	Central Bank	One level	Indonesia	Emerging Economy
43	2009	De Geuser, et al	Twenty four organizations	One level	Switzerland, UK, Germany, Austria, France and Netherlands.	Advanced Economies
44	2009	Ana Yetano	Brisbane and Melbourne	One level	Australia	Advanced Economy
45	2009	Wiersma	Nineteen Dutch firms	One level	Netherlands	Advanced Economy
46	2009	Ching Yuan , Chaochang Chiu	Company	One level	Taiwan	Emerging Economy
47	2009	Farneti	Local government	One level	Italy	Emerging Economy
48	2010	Burney and.Swanson	Accounting managers in BSC firms	One level	USA	Advanced Economy
49	2010	Greiling	Twenty organizations in German	One level	German	Advanced Economy
50	2010	Kraus and Lind	Fifteen Multi-national companies	One level	Sweden	Advanced Economy
51	2010	Nilsson	Municipality	One level	Sweden	Advanced Economy

Number	Year	Authors	Sectors	Organization Level Observed	Country	Classification of Countries (based on April 2011 World Economic Outlook 2011)*
52	2010	Guimarães, et al	Urban waste sector	One level	Portugal	Emerging Economy
53	2011	Hoque and Adams	Government organizations	One level	Australia	Advanced Economy
54	2011	Sharma and Gadenne	Local government authority	One level	Australia	Advanced Economy
55	2011	Soderberg, et al	149 organizations	One level	Canada	Advanced Economy
56	2011	Ling Lee and Jung Yang	667 firms listed on the Taiwan Stock Exchange	One level	Taiwan	Emerging Economy
57	2012	Agostino and Arnaboldi	Companies	One level	Italy	Advanced Economy
58	2012	Northcott and Taulapapa	73 Local Governments Organizations	One level	New Zealand	Advanced Economy
59	2013	Dreveton	A public sector	One level	France	Advanced Economy
60	2013	Al-Aama	Jeddah Municipality (JM) IT Department	One level	Saudi Arabia	Emerging Economy
61	2013	Lee, et al	Small & Medium Business Administration	One level	Korea	Emerging Economy
62	2013	LI Me and WU Jiang	Local governments	One level	Canada	Emerging Economy
63	2014	Madsen and Stenheim	Consultants and clients	One level	Sweden, Norway and Denmark	Advanced Economies

Number	Year	Authors	Sectors	Organization Level Observed	Country	Classification of Countries (based on April 2011 World Economic Outlook 2011)*
64	2014	Behrouzi, et al	Health sector	One level	USA,UK, Sweden, Australia, New Zealand, Germany, Greece, Singapore, Spain, Taiwan, Italy, Pakistan, Lebanon	USA,UK, Sweden, Australia, New Zealand, Germany, Greece, Sweden, Norway, Denmark and Spain are Advanced Economies, while Singapore and Taiwan are Emerging Economies and Pakistan and Lebanon are Other Emerging Economies

*Rees (2013)

Questionnaire

(in Indonesian Language)

MANCHESTER
1824

The University
of Manchester

Kuesioner Survei

Performance Management Systems based on the Balanced Scorecards Framework:
The Case of Indonesian
Customs and Excise Organizations

The University of Manchester, United Kingdom

Kuisioner ini terdiri dari dua bagian, yaitu data responden dan pernyataan kuisioner, yang semuanya wajib diisi. Dalam pengisian kusioner ini, dimohon agar Anda memperhatikan petunjuk yang diberikan dalam setiap pertanyaan.

A.   DATA RESPONDEN

Petunjuk pengisian Data Responden:

- Gunakan tinta hitam atau biru untuk menulis
- Setiap pertanyaan dalam Data Responden **wajib** untuk diisi
- Beri tanda (√) pada kotak yang relevan, sesuai dengan instruksi pertanyaan
- Isilah titik-titik dengan huruf cetak untuk menjawab pertanyaan

1.   Nama Kantor (*Isilah dengan nama kantor bea dan cukai tempat Anda bekerja saat ini*)

……

2.   Jabatan Anda (Beri tanda (√) pada satu kotak saja)

☐   Pelaksana

☐   Pejabat Fungsional Pemeriksa Dokumen

☐   Eselon V

☐   Pejabat Eselon IV

☐   Pejabat Eselon III

3.   Golongan Anda (Beri tanda (√) pada satu kotak saja)

☐   Golongan II

☐ Golongan III

☐ Golongan IV

4. **Usia Anda** (Beri tanda (√) pada satu kotak saja)

☐ 18 s.d 30 Tahun

☐ Lebih dari 30 s.d 45 Tahun

☐ Lebih dari 45 s.d 50 Tahun

☐ Lebih dari 50 s.d 55 Tahun

☐ Lebih dari 55 Tahun

5. **Tingkat Pendidikan terakhir Anda** (Beri tanda (√) pada satu kotak saja)

☐ SMA/SMK

☐ D1

☐ D3

☐ D4/S1

☐ S2

☐ S3

6. **Sudah berapa lama Anda bekerja di Kantor ini** (Beri tanda (√) pada satu kotak saja)

☐ kurang dari 1 tahun

☐ 1 tahun s.d 2 tahun

☐ lebih dari 2 tahun s.d 5 tahun

☐ lebih dari 5 tahun s.d 10 tahun

☐ lebih dari 10 tahun

7. **Jenis Kelamin** (Beri tanda (√) pada satu kotak saja)

☐ Laki-laki

☐ Wanita

Petunjuk pengisian kuisioner:

- Skala yang digunakan adalah skala 1- 7.

- Beri tanda (√) pada skala yang menurut Anda paling sesuai.

- Setiap pernyataan kuesioner **wajib** untuk diisi.

- Pada setiap nomor pernyataan, agar hanya diisi dengan **satu** jawaban.

No	Pernyataan	Sangat Tidak Setuju	Tidak Setuju	Agak Tidak Setuju	Ragu -ragu	Agak Setuju	Setuju	Sangat Setuju
		1	2	3	4	5	6	7
1.	Saya bangga dapat menceritakan kepada orang tentang kantor tempat saya bekerja.							
2.	Apa yang dilakukan oleh kantor ini penting bagi saya.							
3.	Saya dan Kantor memiliki tujuan yang sama.							
4.	Saya memiliki rasa kepemilikan yang kuat terhadap kantor ini.							
5.	Saya merasa bagian dari keluarga dalam Kantor ini.							
6.	Orang yang bekerja dengan saya di kantor ini peduli terhadap apa yang terjadi pada saya.							
7.	Kantor ini memberi apresiasi terhadap pencapaian kerja saya.							
8.	Kantor ini melakukan semua yang bisa dilakukan untuk mengenali karyawan atas kinerja mereka yang baik.							
9.	Upaya kerja saya sangat dihargai oleh Kantor ini.							
10.	Pekerjaan yang saya lakukan sebagai pegawai bea cukai di kantor ini sangat penting bagi saya.							
11.	Saya tidak takut membela untuk hak orang lain walaupun itu berarti saya akan dicemoohkan.							
12.	Membuat perbedaan dalam masyarakat bagi saya berarti lebih dari pencapaian pribadi.							
13.	Saya siap membuat pengorbanan besar untuk kebaikan masyarakat.							

No	Pernyataan	Sangat Tidak Setuju	Tidak Setuju	Agak Tidak Setuju	Ragu -ragu	Agak Setuju	Setuju	Sangat Setuju
		1	2	3	4	5	6	7
14.	Saya sering diingatkan oleh peristiwa sehari-hari tentang betapa tergantungnya kita satu sama lain.							
15.	Pimpinan Kantor mengedukasi saya tentang pengelolaan kinerja berdasarkan *Balanced Scorecards*							
16.	Pimpinan Kantor memberikan informasi yang memadai tentang sasaran strategi kantor							
17.	Saya mengetahui semua Sasaran Strategi Organisasi(Kantor)							
18.	Kepala Kantor memotivasi saya untuk mencapai target IKU saya							
19.	Atasan langsung saya membimbing saya secara aktif dalam pencapaian target kinerja							
20.	Atasan langsung saya memonitor kinerja saya melalui Indikator Kinerja Utama (IKU) yang saya miliki							
21.	Peta strategi Kantor (*strategy map*) membantu saya untuk memahami lebih baik Sasaran Strategis yang ingin dicapai oleh Kantor							
22.	Saya mengetahui semua IKU yang dimiliki oleh Kantor							
23.	Saya mengetahui semua target IKU yang dimiliki oleh Kantor							
24.	IKU saya berhubungan dengan sasaran strategis Kantor							
25.	IKU Kantor telah diturunkan ke unit-unit kerja di bawahnya dengan memperhatikan tugas dan fungsi unit kerja masing-masing							

No	Pernyataan	Sangat Tidak Setuju	Tidak Setuju	Agak Tidak Setuju	Ragu-ragu	Agak Setuju	Setuju	Sangat Setuju
		1	2	3	4	5	6	7
26.	Target IKU Kantor diturunkan ke unit-unit kerja di bawahnya dengan secara proporsional							
27.	IKU saya selaras dengan unit/pegawai lain pada level yang sama							
28.	IKU saya selaras dengan IKU Kantor							
29.	IKU saya memiliki kualitas yang baik							
30.	Target IKU saya realistis							
31.	Target IKU saya mendukung tercapainya target IKU Kantor							
32.	Terdapat komunikasi/dialog yang aktif antara Saya dengan Atasan Langsung dalam penentuan IKU saya							
33.	Terdapat komunikasi/dialog yang aktif antara Saya dengan Atasan Langsung dalam penentuan target untuk IKU saya							
34.	Terdapat sistem imbal jasa (*reward system*) yang objektif yang dikaitkan dengan pencapaian target IKU saya							
35.	Pengembangan kompetensi saya dihubungkan dengan sasaran strategi Kantor							
36.	Pelaporan capaian IKU didukung oleh aplikasi teknologi yang handal							
37.	Pelaporan capaian IKU didukung oleh tata cara yang mudah dipahami							
38.	Pelaporan capaian IKU mewajibkan penyampaian bukti data capaian							
Pernyataan Nomor **39 s.d 62** di bawah ini: hanya diisi oleh **Pejabat Eselon IV dan Pejabat Fumgsional Pemeriksa Dokumen**								
39.	Kepala Kantor terlibat aktif dalam memformulasikan sasaran strategi kantor							

No	Pernyataan	Sangat Tidak Setuju	Tidak Setuju	Agak Tidak Setuju	Ragu-ragu	Agak Setuju	Setuju	Sangat Setuju
		1	2	3	4	5	6	7
40.	Kepala Kantor terlibat aktif dalam menentukan IKU Kantor							
41.	Kepala Kantor menentukan target IKU Kantor yang menantang							
42.	Kepala Kantor selalu memimpin pertemuan rapat pembahasan IKU							
43.	Kepala Kantor menyemangati pegawai untuk mengidentifikasi strategi di unit kerja yang mempunyai dampak paling tinggi terhadap tercapainya sasaran strategi Kantor. Metode menyemangati pegawai dapat melalui: surat edaran, lisan dalam rapat kantor, dan/atau apada saat upacara/apel.							
44.	Kepala Kantor menerangkan semua Sasaran Strategis beserta IKU dan target IKU Kantor pada awal tahun fiskal kepada seluruh Pegawai. Metode menyemangati pegawai dapat melalui: surat edaran, lisan dalam rapat kantor, dan/atau apada saat upacara/apel.							
45.	Kepala Kantor terlibat secara aktif untuk internalisasi/sosialisasi *balanced scorecards* kepada seluruh Pegawai							
46.	Peta strategi organisasi yang dimiliki Kantor (*strategy map*) merefleksikan sasaran strategi Kantor							
47.	Peta strategi mencakup seluruh isu aktual strategis yang dihadapi Kantor							
48.	Saya memahami dengan baik sasaran strategi Kantor							
49.	Setiap IKU Kantor telah memiliki penanggung jawab yang tepat							

No	Pernyataan	Sangat Tidak Setuju	Tidak Setuju	Agak Tidak Setuju	Ragu-ragu	Agak Setuju	Setuju	Sangat Setuju
		1	2	3	4	5	6	7
50.	Setiap unit kerja di Kantor ini terlibat aktif dalam menyusun peta strategi							
51.	Rapat pembahasan IKU Kantor dilakukan secara rutin dalam periode waktu tertentu							
52.	Rapat pembahasan IKU dapat menghilangkan batasan unit kerja antara pegawai							
53.	Rapat pembahasan IKU diselenggarakan dengan waktu yang efisien							
54.	Rapat pembahasan IKU Kantor merupakan sistem peringatan dini yang dapat digunakan untuk menyesuaikan secara langsung sasaran strategis yang telah ditetapkan dengan kondisi aktual							
55.	Rapat pembahasan IKU mendorong terciptanya *teamwork* yang efektif di kantor							
56.	Rapat pembahasan IKU mendorong pembelajaran organisasi							
57.	Rapat pembahasan IKU bermanfaat bagi Kantor							
58.	Umpan balik (*feedback*) informasi strategis yang muncul pada saat rapat pembahasan IKU membantu untuk menjaga antusiasme pencapaian sasaran strategis Kantor							
59.	Informasi strategis yang dibahas dalam rapat pembahasan IKU membantu mengarahkan Kantor untuk selalu mencapai kinerja yang lebih tinggi							
60.	Setiap sasaran strategis dalam peta strategi menjadi landasan dalam pengambilan keputusan							
61.	Kantor membuat program kerja yang relevan untuk mendukung tercapainya sasaran strategi							
62.	Sistem penganggaran yang berlaku di Kantor ini telah							

No	Pernyataan	Sangat Tidak Setuju	Tidak Setuju	Agak Tidak Setuju	Ragu-ragu	Agak Setuju	Setuju	Sangat Setuju
		1	2	3	4	5	6	7
	dikaitkan dengan *balanced scorecards*							

Terima kasih atas Partisipasi Anda

untuk Mengisi Kuisioner ini

PROFIL UMUM KANTOR BEA CUKAI

Petunjuk pengisian:

- Pengisian dilakukan oleh **Kepala Kantor**

- Gunakan tinta hitam atau biru untuk menulis

- Setiap pertanyaan wajib diisi

- Isilah titik-titik dengan huruf cetak untuk menjawab pertanyaan

- Jika dianggap perlu, maka tiap jawaban dapat dilampiri oleh data hardcopy/softcopy

1. Nama Kantor: …………………………………………………………….

2. Jumlah Pegawai di Kantor ini: …………………………………….. Pegawai

3. Usia Anda (Beri tanda (√) pada satu kotak saja)

   ☐ 30 s.d 35 Tahun
   ☐ Lebih dari 35 s.d 40 Tahun
   ☐ Lebih dari 40 s.d 45 Tahun
   ☐ Lebih dari 45 s.d 50 Tahun
   ☐ Lebih dari 50 s.d 55 Tahun

4. Tingkat Pendidikan terakhir Anda (Beri tanda (√) pada satu kotak saja)

   ☐ SMA/SMK
   ☐ D1
   ☐ D3
   ☐ D4/S1
   ☐ S2
   ☐ S3

1. **Jenis Kelamin** (Beri tanda (√) pada satu kotak saja)

☐ Laki-laki

☐ Wanita

6. Tuliskan kinerja (realisasi) dalam bentuk **prosentase capaian** atas total penerimaan (total bea masuk/cukai dan/atau bea keluar) Kantor yang dimulai dari **1** tahun **sebelum (t-1)** implementasi balanced scorecards s.d tahun 2015.

t-1	t	t+1	t+2	t+3	t+4	t+5

Sebagai ilustrasi, jika balanced scorecards diimplementasikan pada tahun 2010 (t) di Kantor Anda, maka data yang disampaikan adalah persentase realisasi penerimaan sejak tahun 2009(t-1) .

Contoh ilustrasi:

2009	2010	2011	2012	2013	2014	2015
102%	99%	110%	100.8%	103%	108%	106%

7. Tuliskan kinerja (realisasi) **Indeks Kepuasaan Pengguna Jasa** Kantor yang dimulai dari **1** tahun **sebelum (t-1)** implementasi balanced scorecards s.d tahun 2015.

t-1	t	t+1	t+2	t+3	t+4	t+5

Sebagai ilustrasi, jika balanced scorecards diimplementasikan pada tahun 2010 di Kantor Anda, maka data yang disampaikan adalah sejak tahun 2009.

Contoh ilustrasi:

2009	2010	2011	2012	2013	2014	2015
55	57	60	61	65	70	74

Questionnaire

(Translated into English)

- The questionnaire uses the 7-point Likert scale.
- The responses ranges from 1 (Strongly disagree) to 7 (strongly agree)

Organizational Commitment (OC)

1. I am quite proud to be able to tell people what organization I work for.
2. What this organization stands for is important to me.
3. My organization and I are the same; therefore the destiny of my organization is also my own destiny
4. I feel a strong sense of belonging to this organization
5. I feel like part of family at this organization
6. The people I work with care about what happens to me
7. This organization appreciates my accomplishment on the job
8. This organization does all it can to recognize employees for their good performance
9. My effort on the job is largely appreciated by this organization

Public Service Motivation (PSM)

1. The work I do as a civil servant on my job is very important to me
2. I am not afraid to defend for the rights of others even if it means I will be ridiculed
3. Making a difference in society means more to me than personal achievements
4. I am prepared to make enormous sacrifices for the good of society
5. I am often reminded by daily events about how dependent we are on one another

Strategy Translation to operational terms (ST)

1. Our organisation's strategy map helps me to better understand our organisation's strategic objectives
2. I know all about our organisation's KPIs
3. I know all about our organisation's KPI targets
4. My KPIs relate to the organisation's strategic objectives
5.

Organization Strategy Alignment (SA)

1. The organisational KPIs are cascaded proportionately
2. The organisational KPI targets are cascaded proportionately
3. My KPIs are aligned with those of other colleagues at the same level

Make strategy everyone's everyday job (SJ)

1. My KPIs are in line with the organisational KPIs
2. I have good quality KPIs
3. My KPI targets are realistic
4. My KPI targets support the accomplishment of organisational targets
5. There is active dialogue with my direct supervisor when determining my KPIs
6. There is active dialogue with my direct supervisor when determining my KPI targets
7. The rewards system is linked to KPI target achievement

Strategy as a continous process (SP)

1. My competence development is aligned with organisational strategy
2. BSC management is supported with sound information technology
3. I find the performance reporting procedure easily understandable
4. Performance reporting requires solid proof

Change mobilization through executive leadership/ leadership involvement (LI)

1. The head of the organisation educates me about performance management based on the BSC

2. The head of the organisation provides sufficient information regarding the organisation's strategies and goals

3. I know all about our organisation's objectives

4. The head of the organisation motivates me to accomplish my targets

5. My direct supervisor actively guides me to reach my performance goals

6. My direct supervisor monitors my performance through my KPIs

Consent Form

MANCHESTER 1824

The University of Manchester

Balanced Scorecards as a Performance Management System in Government Organization of an Emerging Economy Country: an Empirical Evidence of Balanced Scorecards Implementation in Indonesia

CONSENT FORM

If you are happy to participate please complete and sign the consent form below.

Please initial box

1. I confirm that I have read the attached information sheet on the above project and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.

2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason and without detriment to my treatment/service/self.

I agree to take part in the above project

Name of participant	Date	Signature

Name of researcher	Date	Signature

This Project Has Been Approved by the University of Manchester's Research Ethics Committee [UREC reference number].

Performance Management Systems based on
the Balanced Scorecards Framework:
The Case of Indonesian Customs and Excise Organizations

Lembar Informasi Peserta

Saya mengundang Anda untuk mengambil bagian dalam studi yang merupakan bagian dari thesis PhD saya. Proyek riset ini bertujuan untuk menginvestigasi bagaimana penggunaan balances scorecards sebagai manajemen kinerja mempengaruhi aspek-aspek kinerja organisasi dan menemukan factor-faktor utama yang mendukung implementasi balanced scorecards dalam organisasi sector publik dari sebuah negara berkembang yaitu Indonesia.

Sebelum Anda memutuskan untuk berpartisipasi, penting bagi Anda untuk memahami mengapa penelitian ini dilakukan dan apa yang akan terlibat. Bacalah dengan seksama informasi di bawah ini dan diskusikan dengan orang lain bila Anda ingin. Silahkan bertanya bila ada hal-hal yang tidak jelas atau bila Anda memerlukan tambahan informasi. Jangan buru-buru untuk memutuskan apakah Anda ingin berpartisipasi. Terima kasih banyak atas waktu yang Anda luangkan untuk membaca lembar ini.

Siapa yang akan melakukan penelitian ini?

Penelitian ini akan dilakukan olrh Saut Mulia Simbolon, kandidat PhD; Institute for Development Policy and Management; School of Environment, Education and Development, The University of Manchester, United Kingdom.

Apa tujuan penelitian ini?

Tujuan penelitian ini adalah:

1. Mereview perpsektif teoritis, praktis dan keterbatasan implementasi balanced scorecards
2. Menginvestigsi faktor utama yang mempengaruhi implementasi balanced scorecards
3. Membuat kerangka konseptual dari korelasi antara implementasi balanced scorecards dan kinerja organisasi
4. Melakukan tes empiris sebuah kerangka konseptual

Mengapa saya dipilih?

Anda adalah satu dari 1758 responden yang terpilih untuk proyek penelitian ini. Proyek riset ini menggunakan *stratified random sampling*, karena itu Anda terpilih untuk merepresentasikan pendapat dari karyawan lain dari tingkat yang sama.

Apa yang akan ditanyakan kepada saya bila saya ikut serta?

Anda akan diberi serangkaian pertanyaan yang berhubungan dengan prinsip balanced scorecard, aspek-aspek komitmen organisasi dan aspek-aspek motivasi jasa publik.

Apa yang terjadi dengan data yang dikumpulkan?

Data akan digunakan untu tujuan penelitian tesis, konferensi riset internasional dan pulbikasi jurnal akademis.

Bagaimana kerahasiaan terjaga?.

Semua peserta dijaga kerahasiaannya dengan menggunakan anonym. Data peserta akan disimpan dalam encrypted laptop peneliti yang tidak dapat diakses oleh siapapun.

Apa yang terjadi bila saya tidak ingin turut serta atau bila saya berubah pikiran?

Keputusan ada di tangan Anda apakah Anda akan ikut serta atau tidak. Bila Anda memutuskan untuk ikut serta Anda akan diberikan lembar informasi ini untuk Anda simpan dan Anda diminta untuk menandatangani formulir pernyataan.

Apakah Anda dibayar untuk ikut berpartisipasi dalam riset ini?

Partisipasi dalam riset ini adalah berbasis sukarela, karena itu tidak ada pembayaran yang diberikan.

Berapa lama penelitian ini?

Diperkirakan 45 menit.

Dimana penelitian akan dilakukan?

 Penelitian akan dilakukan di Kantor Anda.

Apakah *outcome* riset akan dipublikasikan?

 Hasil riset akan digunakan untuk tesis PhD, dan publikasi jurnal akademik.

Bagaimana bila terjadi kesalahan?

Hubungi:

Saut Mulia Simbolon

Institute for Development Policy and Management

School of Environment, Education and Development

The University of Manchester

Oxord Road, Manchester, M13 9PL

United Kingdom

Tel: +44 07741 367 345 (UK)

        +62 021 780 1643 (INA)

Email: saut.simbolon@postgrad.manchester.ac.uk

Bagaimana kalau saya ada keluhan?

Bila ada masalah yang berhubungan dengan riset ini, silahkan hubungi peneliti, dengan alamat lengkap sebagai berikut:

Saut Mulia Simbolon

Institute for Development Policy and Management

School of Environment, Education and Development

The University of Manchester

Oxord Road, Manchester, M13 9PL

United Kingdom

Tel: +44 07741 367 345 (UK)

        +62 021 780 1643 (INA)

Email: saut.simbolon@postgrad.manchester.ac.uk

Namun, bila Anda lebih suka tidak mendiskusikannya dengan tim riset, silahkan hubungi:

Dr Chris Rees

Email   : Chris.Rees@manchester.ac.uk

 Bila Anda ingin membuat keluhan secara formal tentang penyelenggaraan riset ini Anda dapar menghubungi Research Governance and Integrity Manager, Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL, dengan mengirim email ke: research.complaints@manchester.ac.uk atau menelepon 0161 275 2674or 2758093.

Bagaimana saya mengontak Anda?

Saut Mulia Simbolon

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United Kingdom

Tel: +44 07741 367 345 (UK)

          +62 021 780 1643 (INA)

Email: saut.simbolon@postgrad.manchester.ac.uk

Proyek ini telah disetujui oleh the University of Manchester's Research Ethics Committee [UREC reference number].

Shapiro-Wilk W test for Normal Data

| Variable	Obs	W	V	z	Prob>z
li1	1663	0.940	59.942	10.341	0.000
li2	1668	0.938	62.550	10.450	0.000
li3	1663	0.955	44.677	9.599	0.000
li4	1665	0.945	55.458	10.145	0.000
li5	1666	0.912	79.079	11.042	0.000
li6	1669	0.926	74.458	10.891	0.000
st1	1663	0.954	45.831	9.663	0.000
st2	1661	0.960	40.711	9.364	0.000
st3	1656	0.960	40.072	9.323	0.000
st4	1657	0.939	61.668	10.412	0.000
sa1	1664	0.958	41.767	9.429	0.000
sa2	1663	0.953	46.606	9.706	0.000
sa3	1663	0.926	73.674	10.863	0.000
sj1	1662	0.946	53.634	10.060	0.000
sj2	1661	0.955	45.250	9.631	0.000
sj3	1660	0.925	75.161	10.912	0.000
sj4	1660	0.949	51.095	9.937	0.000
sj5	1663	0.918	82.079	11.135	0.000
sj6	1663	0.922	78.015	11.007	0.000
sj7	1661	0.932	68.378	10.674	0.000
sp1	1662	0.934	66.527	10.605	0.000
sp2	1660	0.933	66.545	10.605	0.000
sp3	1661	0.921	79.007	11.039	0.000
sp4	1661	0.928	72.386	10.818	0.000

Skewness/Kurtosis tests for Normality

| Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	------ joint ------ adj chi2(2)	
st1	1,662	0.0000	0.0000	.	0.0000
st2	1,660	0.0000	0.5012	.	0.0000
st3	1,655	0.0000	0.9337	.	0.0000
st4	1,656	0.0000	0.0000	.	0.0000
sa1	1,663	0.0000	0.0000	.	0.0000
sa2	1,662	0.0000	0.0000	.	0.0000
sa3	1,662	0.0000	0.0000	.	0.0000
sj1	1,661	0.0000	0.0000	.	0.0000
sj2	1,660	0.0000	0.0000	.	0.0000
sj3	1,659	0.0000	0.0000	.	0.0000
sj4	1,659	0.0000	0.0000	.	0.0000
sj5	1,662	0.0000	0.0000	.	0.0000
sj6	1,662	0.0000	0.0000	.	0.0000
sj7	1,660	0.0000	0.0000	.	0.0000
sp1	1,661	0.0000	0.0000	.	0.0000
sp2	1,659	0.0000	0.0000	.	0.0000
sp3	1,660	0.0000	0.0000	.	0.0000
sp4	1,660	0.0000	0.0000	.	0.0000
li1	1,662	0.0000	0.0000	.	0.0000
li2	1,667	0.0000	0.0000	.	0.0000
li3	1,662	0.0000	0.0000	.	0.0000
li4	1,664	0.0000	0.0000	.	0.0000
li5	1,665	0.0000	0.0000	.	0.0000
li6	1,668	0.0000	0.0000	.	0.0000

CFA results of BSC implementation in DGCE offices
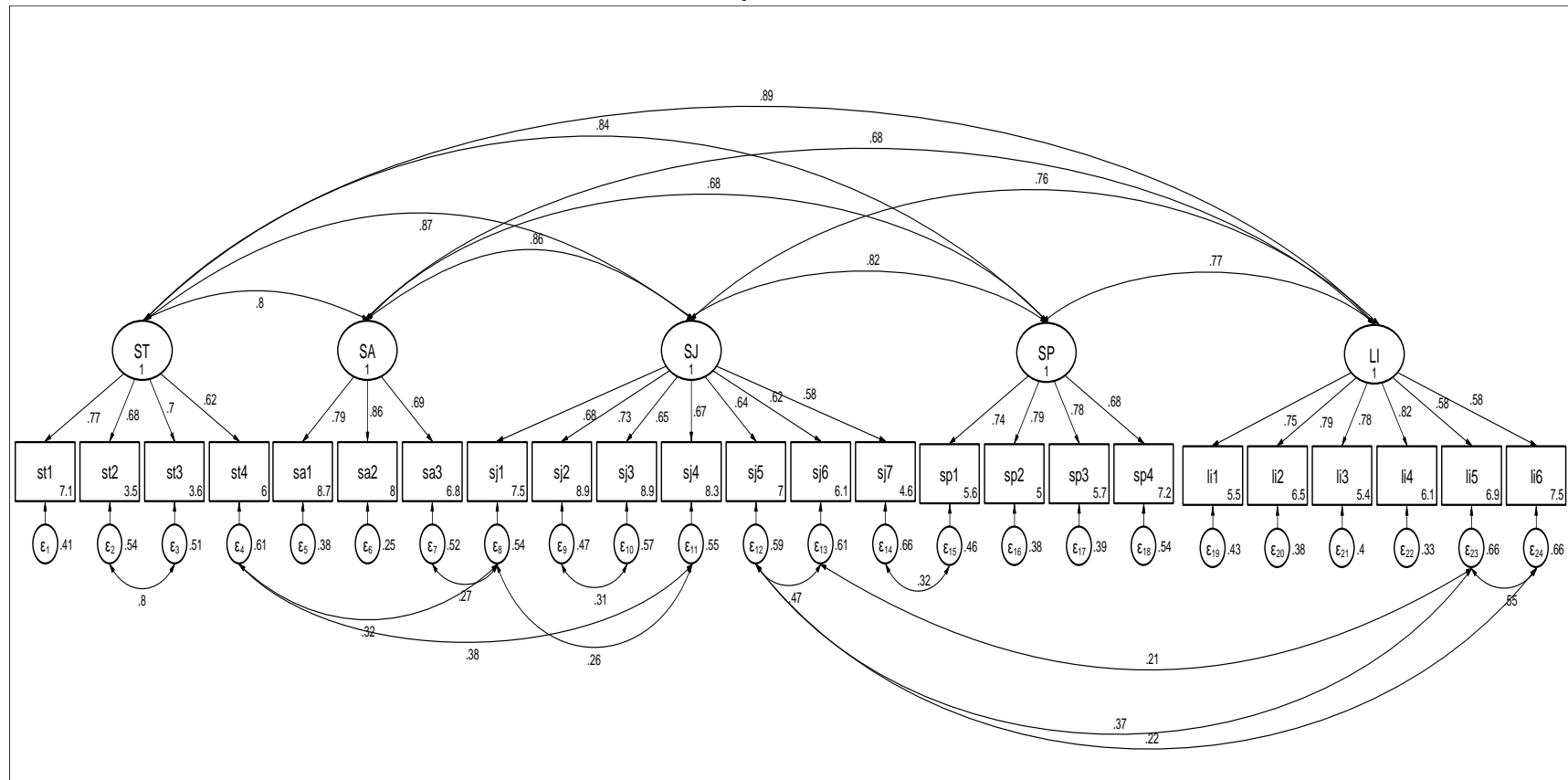
Measurement model estimates and structural model of organisation size, employee's role and BSC

Measurement model estimates	
Strategy translation -> st1	0.68(0.02) ‡
Strategy translation -> st2	0.74(0.02) ‡
Strategy translation -> st3	0.78(0.02) ‡
Strategy translation -> st4	0.55(0.02) ‡
Strategy alignment -> sa1	0.77(0.01) ‡
Strategy alignment -> sa2	0.91(0.01) ‡
Strategy alignment -> sa3	0.62(0.02) ‡
Strategy as job -> sj1	0.62(0.02) ‡
Strategy as job -> sj2	0.77(0.01) ‡
Strategy as job -> sj3	0.72(0.01) ‡
Strategy as job -> sj4	0.67(0.02) ‡
Strategy as job -> sj5	0.59(0.02) ‡
Strategy as job -> sj6	0.55(0.02) ‡
Strategy as job -> sj7	0.42(0.02) ‡
Strategy process -> sp1	0.63(0.02) ‡
Strategy process -> sp2	0.82(0.01) ‡
Strategy process -> sp3	0.81(0.01) ‡
Strategy process -> sp4	0.67(0.02) ‡
Leadership involvement -> li1	0.82(0.01) ‡
Leadership involvement -> li2	0.75(0.01) ‡
Leadership involvement -> li3	0.75(0.01) ‡
Leadership involvement -> li4	0.83(0.02) ‡
Leadership involvement -> li5	0.51(0.02) ‡
Leadership involvement -> li6	0.54(0.02) ‡
Structural model	
Size -> st	-0.25(0.03) ‡
Size -> sa	-0.19(0.02) ‡
Size -> sj	-0.21(0.03) ‡
Size -> sp	-0.24(0.02) ‡
Size -> li	-0.16(0.03) ‡
Employees' role -> st	0.20(0.03) †
Employees' role -> sa	0.10(0.03) ‡
Employees' role -> sj	0.11(0.03) ‡
Employees' role -> sp	0.02(0.03)
Employees' role -> li	0.09(0.03) ‡

Note: Reported are standardised coefficients (standard errors). Sig.: *: 10% or less; †: 5% or less; ‡: 1% or less.

Initial data distribution of state revenue collection
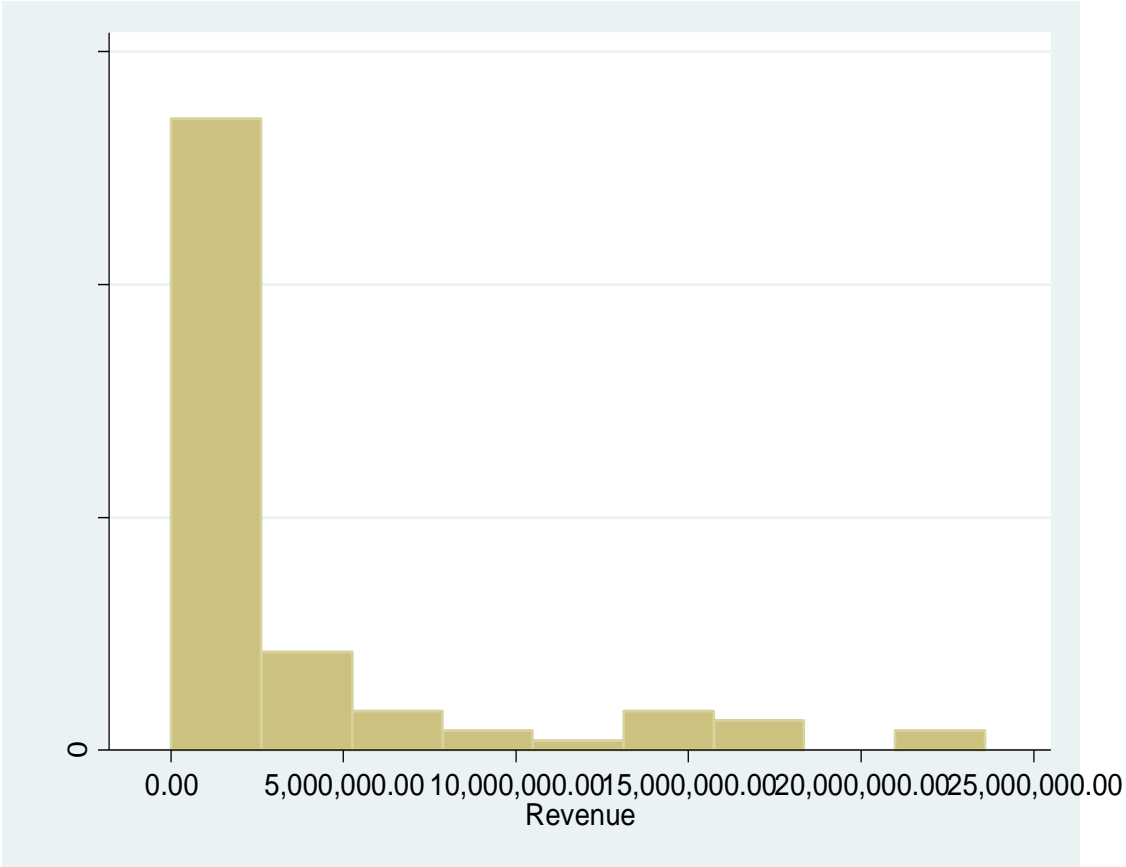
Normalised data distribution state revenue collection