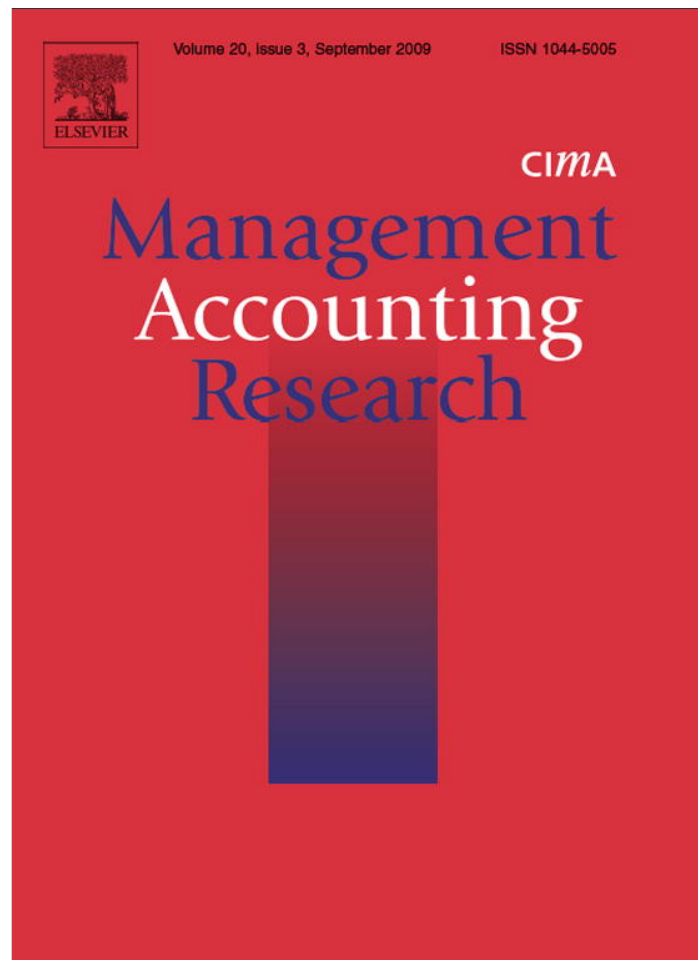


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## Performance measurement design within its organisational context—Evidence from China

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## ABSTRACT

This paper presents an action research study that looks at the design of a performance measurement system in a large Chinese state-owned enterprise, focussing on how change happens. A stakeholder analytical framework is developed to bridge the gaps in western-developed models when they are applied in a Chinese context. Analysis revealed the factors determining the nature of change and shaping the performance measurement system. Political constraints and the unavailability of key databases act as barriers to change, while user participation and embedding existing practice both contribute to reducing resistance and promoting continuous improvement. Reinforced by Chinese culture, these factors result in an evolutionary pattern of change. The study shows that the performance measurement system of the case company has fulfilled symbolic functions to signal strategic focus and to influence decision-making.

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### 1. Introduction

This study examines the process of performance measurement system design in a Chinese state-owned enterprise (SOE). To do so, it adopts an action research approach based on a pre-specified stakeholder analytical framework. The researchers actively participated in the design process and experienced how change happened. The importance of the study lies in its analysis of factors affecting the nature of management accounting change in the adoption of 'imported' innovation in China, a major developing economy. It therefore complements much previous literature on the areas of performance measurement system design and management accounting change.

Stimulated by successful experiences of joint ventures along with ongoing economic reforms, the use of management accounting techniques has increased in Chinese SOEs (Firth, 1996; O'Connor et al., 2004, 2006). Factors

affecting the adoption of western management accounting techniques have attracted attention. Various studies have found that liberalising forces, such as market competition (Firth, 1996), foreign joint venture experience (Firth, 1996; O'Connor et al., 2004), and stock market listing (O'Connor et al., 2004) are associated with the degree of adoption of various western management accounting techniques, including performance measurement.

O'Connor et al. (2006) demonstrate that the intensity of political constraints negatively mediates the influence of these factors and conclude that SOEs need to cope, not only with economic transformation and market liberalization but also, with political constraints and regulatory conditions. This supports the 'forced selection' perspective in innovation diffusion as suggested by Abrahamson (1991). In this perspective, there are a number of organisations (including government in the case of Chinese state-owned enterprises) with control and sufficient power to affect the organisation's decisions on innovation technology choices.

However, these studies explored *why* change happens or does not happen, not *how* change happens (Busco et al., 2007). Scant research addresses any questions on how western management accounting techniques can be

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effectively applied in the Chinese business environment and what factors influence and shape such a system in its design. Lin and Yu (2002) provide a case study on a responsibility cost control system applied by a Chinese state-owned iron and steel company. Their research describes how the system works in their case company and identifies two internal factors contributing to the system's success: (i) the professional qualification of management teams and (ii) managers' enthusiasm for change. However, it does not provide a systematic analysis of either how this system has developed or of the factors which may contribute to such development.

In order to obtain an in-depth understanding of how change happens in China, the researchers actively participated in the design of a performance measurement system for a Chinese SOE. A stakeholder analytical framework was proposed in order to address the limitations of existing performance measurement models developed in western economies. Most of those models take the objectives and strategy as a starting point and assume the existence of clearly stated objectives and strategy, consistency between stated strategy and strategy undertaken, and easily identifiable critical performance variables. Taking into account the increased environmental complexity of co-existing market forces and state influences, inefficient capital markets, and increased competition in China (Wei, 2001; Chiou and Lin, 2005; Pistor and Xu, 2005), those assumptions might be less realistic.

Focusing on the performance measurement system design process, this study aims to:

- (i) explore the effectiveness of the proposed stakeholder analytical framework in identifying (a) the influencing forces behind stated objectives and strategy and (b) critical performance variables in the context of the case company; and
- (ii) examine the factors shaping the performance measurement system and affecting the nature of change in the case company.

Consideration of these issues sheds light on the diffusion process of management accounting innovation and assists in understanding the nature of management accounting change in Chinese SOEs.

The study supports the effectiveness of the proposed stakeholder analytical framework in bridging the gaps between dynamic external and internal environments, objectives and strategy, and the performance measurement system. It reveals that the factors shaping the performance measurement system and determining the nature of change in this case were: *expected outcomes, political constraints, embedding existing practice, user participation, database unavailability, and culture.*

The rest of the paper is organised as follows. Section 2 critically reviews the relevant previous studies and presents a proposed stakeholder analytical framework. Section 3 discusses the research methods. Section 4 presents an analysis of the case and focuses on the effectiveness of the proposed framework. Section 5 examines the factors shaping the performance measurement system and determining the nature of change. Section 6 presents the conclusions and recommendations for further research.

## 2. A theoretical framework for the design of performance measurement systems

### 2.1. The starting point—objectives and strategy

Most theoretical frameworks for the design of performance measurement systems take objectives and strategy as their starting point. For instance, the balanced scorecard begins by asking “what do shareholders want?” and translates the vision and strategy of a business into measures across four different areas: financial, customer, internal business process, and learning and growth perspectives (Kaplan and Norton, 1992). Otley (1999) also starts with objectives and strategy in his proposed performance management framework, which integrates five areas including objectives; strategies and plans; target-setting; incentives and reward; and information feedback.

However, the use of an organisation's objectives and strategy as the starting point is problematic. While most models take shareholders' expectations as the objective, many organisations have recognized the need to satisfy multiple and potentially competing goals (Chenhall, 2003). There might be other stakeholders, apart from shareholders, who are important (Ax and Bjornenak, 2005; Emmanuel et al., 1990; Norreklit, 2000), and “the relative importance given to different goals may well reflect the relative power of different stakeholders” (Otley, 1999, p. 366).

Some studies advocate a stakeholder perspective in performance measurement system design. For example, some scholars have built performance measurement models based on stakeholder theory and started from stakeholder analysis (e.g. Atkinson et al., 1997; Neely et al., 2002); Ax and Bjornenak (2005) reveal that one of the Swedish versions of the balanced scorecard combine it with the stakeholder model, with the term “balanced” interpreted as a “balance” among stakeholders. However, because stakeholder theory fails to provide corporate managers with a single objective which might result in managerial confusion, conflict, or even competitive failure, most stakeholder models are only used in the public sector (Jensen, 2001; McAdam et al., 2005).

Aiming to define proper relations between a single objective function and stakeholder theory, Jensen (2001) promotes ‘enlightened stakeholder theory’, which specifies long-term value maximization as the firm's objective, while focusing on meeting the demands of all important corporate constituencies. However, Jensen does not provide a framework to link a firm's objectives and strategy, the expectations and contributions of its stakeholders, and its performance measurement system.

### 2.2. Linking objectives/strategy to performance measurement—critical performance variables

Not only are the objectives and strategy taken as the starting point for the design of most performance measurement systems, communicating objectives and strategy through the organisation is the primary expected outcome of a performance measurement system. Kaplan and Norton (1996) argue that the balanced scorecard is not primar-

ily an evaluation method, but rather a strategic planning and communication device to provide strategic guidance to divisional managers. Malina and Selto (2001) provide empirical evidence that it does present significant opportunities to develop, communicate, and implement strategy. Longfield-Smith (1997) also argues that senior managers may select and use performance measurement in strategy formation and implementation, and to stimulate strategic change.

In the practice of performance measurement system design, existing models use critical performance variables as the link between the stated objectives/strategy and performance measures. Critical performance variables are defined as “factors that must be achieved or implemented successfully for the intended strategy of the business to succeed” (Simons, 1995, p. 63). In today’s developed economies, customer satisfaction and quality are often cited as critical performance variables. Consequently, customer satisfaction and quality of internal processes become two perspectives in the balanced scorecard.

However, when western-developed models are applied to a less developed economy, such as China, it should be questioned whether those commonly cited critical performance variables apply in the same way as they do in more developed countries and whether other variables become critical. For example, considering the existence of political constraints in China as evidenced by previous studies (e.g. O’Connor et al., 2006), the satisfaction of government may also be one of the critical performance variables for Chinese companies.

### 2.3. The factors affecting the nature of management accounting change

In order to understand how management accounting innovations have been diffused in different organisations, a strand of studies has analysed the influencing factors in the change process and identified the factors that either result in, or do not result in, management accounting change (e.g. Innes and Mitchell, 1990; Cobb et al., 1995; Kasurinen, 2002; Ax and Bjornenak, 2005).

Studies on management accounting change in China have contributed to this strand by identifying the factors affecting the diffusion of management accounting innovation in the Chinese context, as discussed in Section 1. There are also numerous studies on Chinese SOEs from other perspectives, such as human resources and property rights (e.g. Qian, 1996; Li, 1997; Lin et al., 1998; Sun, 2000; Xu, 2000). For example, in a study that focused on organisation development and change in Chinese SOEs with human resources as central, Sun (2000) suggested that many organisation development and change programs will encounter cultural as well as institutional obstacles, including traditional cultural values and behavioural patterns, lack of motivation for top executives to make any changes, and lack of training in management skills.

Qian (1996) highlighted the interwoven problems of high agency costs and political costs, which arose from the interaction between the effective control by managers over certain decisions (mainly the rights to use assets and to distribute income) and the ultimate control by government

over other decisions, such as top manager selection and dismissal, and the approval of large investment projects. Applying Busco et al.’s model (2007), these studies have only provided explanations for *why* change happens or does not happen, but not for *how* change happens, or *how* those factors affect the change process and shape the nature of change.

Other studies contribute by focusing on exploring the change process in an organisational context (e.g. Markus and Pfeffer, 1983; Scapens and Roberts, 1993; Burns and Scapens, 2000; Malina and Selto, 2001). Markus and Pfeffer (1983), for example, claimed that the extent to which a new system matches the existing organisational culture and power distribution influences the implementation success. The strategies employed for achieving effectiveness depend upon the goal of implementing the new system. If the goal is to minimize resistance and maximize system success, the system should be designed to resonate with the existing organisational context. If the goal is to promote organisational change, the issues of resistance and potential system failure should be addressed explicitly. Burns and Scapens (2000) further conceptualize management accounting change as a process, rather than as an outcome, and emphasize the complexity of the process of change.

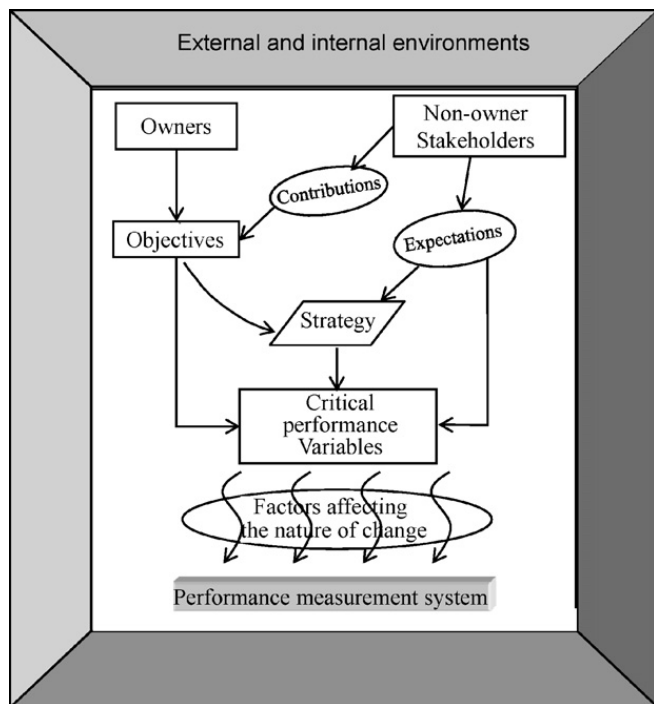
Taking into account the existence of culture and institutional obstacles in China, as evidenced by previous studies, management accounting change processes in the Chinese context may be even less systematic and more political (Burns and Vaivio, 2001). Therefore, it may be more relevant to investigate the factors that shape a new management accounting system in the process of diffusion rather than the factors affecting diffusion rates (Abrahamson, 1991).

In summary, the review of the literature on performance measurement system design and management accounting change has revealed the following three research gaps:

- (i) Although there is acknowledgement of the existence of different influencing forces on the stated objectives and strategy, there is no theoretical framework that provides a device to identify those forces and to analyse their effects on performance measurement.
- (ii) While critical performance variables are commonly used to link objectives and strategy and performance measurement, existing models do not provide a framework to identify alternative critical performance variables to those assumed in those studies.
- (iii) Previous studies on management accounting change in China focus on *why* change happens or does not happen. There is a paucity of research on *how* change happens in the Chinese context.

### 2.4. Proposed stakeholder analytical framework

In order to close some of the gaps identified from this review, a stakeholder analytical framework was adopted in this study. The framework, shown in Fig. 1, starts with stakeholder analysis and seeks to identify the influencing forces behind the stated objectives and strategy and relevant critical performance variances. Based on the identified critical performance variables, the final version of a performance measurement system is further shaped by



**Fig. 1.** Stakeholder analytical framework: the proposed theoretical framework for performance measurement system design.

the factors affecting the nature of management accounting change.

This stakeholder analytical framework advocates using stakeholder analysis as a tool to bridge the gap between a firm's objectives and strategy, and the environments in which it operates. This facilitates the identification of the influencing forces behind the stated objectives, strategy, and critical performance variables. As a result, a performance measurement system can be designed as an expression of objectives and strategy in a measurable way.

Within this framework, a full analysis of stakeholders and their expectations and contributions has been taken as a starting point for the following reasons:

- (i) A full analysis of relevant stakeholders and their relationships with the company provides a better understanding of the external and internal environments, which is required for managing management accounting change (Burns and Scapens, 2000). As advocated by Freeman and McVea (2001, p. 10), stakeholder theory "emphasizes active management of the business environment, relationships and the promotion of shared interests". In terms of technique, stakeholder analysis could provide an effective tool to encapsulate the dynamic influences of external and internal environments on the formulation of objectives and strategy. All such influencing forces would be reflected in the relationship between a particular stakeholder and the company.
- (ii) The relationship in the proposed stakeholder analytical framework between the expectations and contributions of stakeholders and a company's objectives and strategy, is consistent with Jensen's (2001) concept of 'enlightened stakeholder theory'. This

theory takes meeting the demands of all important corporate stakeholders as a strategy to achieve value maximization. Although stakeholder analysis is applied, stakeholder theory is not viewed as a legitimate contender to shareholder value maximization in the above framework.

According to agency theory, having shareholders (owners) as principals and managers as agents (Jensen and Meckling, 1976; Fama, 1980), the objectives of a company should represent the claims of the shareholders. However, in order to maximize shareholder value, "corporate managers must not only satisfy, but enlist the support of, all corporate stakeholders—customers, employees, managers, suppliers, local communities" (Jensen, 2001, p. 9).

Those non-owner stakeholders do not have the right to hire, fire and compensate managers; and they have no direct influence on the formulation of objectives and decisions in an organisation, but they still exercise power over the achievement of the organisation's objectives via internal or external mechanisms. Their influence on the achievement of company objectives ensures that managers have to satisfy their claims through specific strategies. The increasing importance of customer satisfaction is a good example. When most companies in developed economies define an objective as maximization of shareholder value, they have to develop a specific strategy to ensure customer satisfaction.

- (iii) Taking into account the complexity and dynamism of the Chinese business environment, a full analysis of the expectations and contributions of all important corporate stakeholders is essential if an understanding is to be obtained of a company's objectives and strategy, whether stated or not, in Chinese organisations.

Before the 1980s, most of China's enterprises were set up and run by the government and the Chinese Communist Party. In the late 1980s, China began to reform its traditional enterprise system by issuing shares to public investors on an experimental basis. At the end of the 1990s, two stock exchanges were established, in Shanghai and Shenzhen.

A unique characteristic of the Chinese stock market is that about 90% of listed Chinese companies are restructured from state-owned enterprises, with the state retaining, on average, a 65% shareholding in such companies (Chiou and Lin, 2005). The government therefore plays an important role in determining corporate objectives and strategy, resulting in conflicts of interest between the government, with its own political and social targets, and private investors with their intentions of maximizing returns (Lin et al., 1998). Another study also evidences the existence of a less efficient market, and a weak legal system in China (Pistor and Xu, 2005).

Considering Chinese SOEs are still in the process of reform, the co-existence of different forces and the changes in their relative importance in forming goals make the external and internal environments in which a Chinese SOE operates more complex. A full analysis of stakeholders' expectations and contributions may help to present a clearer picture of those forces that influence objectives

and strategy; and, therefore, help to identify the critical performance variables.

In order to examine the effectiveness of the proposed framework in closing some of the research gaps, this study addresses the following research questions:

- (i) Is the stakeholder analytical framework effective in identifying the influencing forces behind objectives and strategy; and identifying the critical performance variables in the Chinese context?
- (ii) What factors affect the nature of change and shape the performance measurement system during the process of performance measurement system design in the case company?

### 3. Methodological considerations

Research cooperation between the authors and the case company between October 2000 and March 2006 was a precondition of this study. The first phase of the research project began in October 2000 and finished in December 2001, with the researchers as participative team members. From October 2005 to March 2006, further reflective interviews were conducted in the case company.

#### 3.1. Rationales of research methodology

In methodological terms, this study adopted an action research approach emphasising collaboration between researchers and practitioners (Avison et al., 2001). Of the numerous definitions of action research, one of the most widely applied is that of Rapoport (1970, p. 499): “action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework.”

Action research was adopted for two reasons:

- (i) The insights that could be gained through action research as claimed by other researchers (e.g. Liu and Pan, 2007; Seal et al., 1999) are not achievable using other research methods. In this study, the opportunities to participate in the design process provided the researchers with a unique opportunity to *experience* and closely observe *how* change happened.
- (ii) Action research can be used to focus upon identifying whether effective change has occurred in organisations. In this study, the existence of mutual interest between researchers and the case company provided a good starting point for interaction, cooperation and intervention. In particular, we employed a positivist approach to action research, which has been promoted by accounting scholars (e.g. Kaplan, 1998; Baker, 2000). This approach involves using a pre-specified theoretical framework to guide interventions. Through its adoption, it was possible to apply the proposed stakeholder analytical framework and to assess its effectiveness.

#### 3.2. Case selection

Three factors were considered in selecting the case:

- (i) The study was limited to large-scale SOEs. The modernization and, especially, the reform of the larger scale

SOEs is a central part of China's economic reforms. In 1996, some 5.6% of SOEs were large-scale and contributed 63.3% of the gross output value of SOEs. From these SOEs, the MM Group (MM) was selected. It is a large-scale, conglomerate enterprise group—one of the 39 “backbone”<sup>1</sup> SOEs in China. Its core business is foreign trade, with peripheral businesses in finance, insurance, real estate and information technology; and it owns 98 subsidiaries and joint ventures in China and 44 subsidiaries in 22 countries worldwide.

- (ii) The intention was to focus on the factors shaping the change in the process of performance measurement system design, instead of the factors resulting – or not resulting – in change. In order to do so, the research site had to have a strong motivation to change. MM appeared appropriate, meeting all the criteria identified by previous research as factors stimulating the diffusion of innovation.
- (iii) Access had to be available to both the case site and to personnel. The Chief Finance Officer and two other members of the MM Finance function attended the executive programme and training courses the researchers gave in 2000. A full discussion was held between the researchers and those senior managers from MM, dealing with the concepts of performance measurement and the needs of MM.

#### 3.3. The research process

The research activities occurred over four phases.

##### 3.3.1. Phase one: environment and stakeholder analysis, October 2000 to December 2000

In order to gain a good understanding of the external and internal environments in which MM is operating and in order to identify the important stakeholders, the researchers interviewed the top managers of both the group and of five of its Chinese subsidiaries. Relevant documents were collected and examined. The information gathered covered the evolution of the relationship between the Chinese government and MM, the development of China's markets (including capital markets, product markets and labour markets), the MM corporate governance structure, accounting reports, the stated objectives and strategy, and the existing performance measurement system.

##### 3.3.2. Phase two: agreeing on objectives and team formation, January 2001

Based on the first phase, the researchers had their first formal meeting with the Vice-President and the CFO of MM. The aim of the meeting was to seek mutual understanding of the problems MM was facing and of the objectives of the research project. This resulted in two outputs:

- (i) the researchers and the top managers of the case company reached an agreement on the needs of MM and the

<sup>1</sup> The notion of “backbone” in China represents those large firms that significantly affect the success of the macro-economy and the quality of life of the Chinese.

**Table 1**

Sources of the interview data.

Interviewees	Coding	Roles in the project
Vice-President of the Board of Directors in charge of financial management	VPF	Represents the Board of Directors; reserves the right of project approval
The Chief Finance Officer of MM	CFO	Participates in the design process acting head of the project
A chief officer in charge of performance evaluation	COPM	Participates in both the design and implementation process
Two officers from the Finance Office of MM	FO 1, 2	Participate in both the design and implementation process
Operations managers from the five selected Chinese subsidiaries	OM 1-5	Participate in the implementation process
Financial managers from the five selected Chinese subsidiaries	FM 1-5	Participate in the implementation process

objective of the project was being to communicate the objectives and strategy through the organisation; and (ii) a working group for performance measurement system design was formed and the researchers were officially delegated the leadership role in that group. The working group included four outsiders (the authors and two research assistants) and four insiders from MM: the CFO, a chief officer from the Human Resources Department, and two other officers from the Finance Office.

### 3.3.3. Phase three: design and implementation, February 2001 to December 2001

During this phase, the researchers were actively immersed in the company, holding meetings with staff at all levels including top management. These semi-structured events ranged from 1-h individual interviews to half-day small group meetings. The informants are listed and coded in Table 1. The researchers also conducted 2 days of training during the design and implementation process.

### 3.3.4. Phase four: reflective revisits, November 2005 to March 2006

To investigate the effectiveness<sup>2</sup> of the performance measurement system designed during 2000 and 2001, MM was revisited at the end of year 2005 with the aim of interviewing the Chief Finance Officer (CFO), the chief officer in charge of performance management, and financial managers from five selected subsidiary companies for reflective feedback on the project.

The interviews with the CFO and the performance management officer were conducted face-to-face, each lasting approximately 1 h. These were tape-recorded and transcribed. It was not possible to meet the financial managers from the subsidiary companies and their opinions on the same issues as discussed in the two interviews were gathered using a semi-structured questionnaire. The questionnaires were sent to the financial managers at each of the five Chinese subsidiary companies. Three responses were received. The questions covered by the interviews and the semi-structured questionnaires are shown as Appendix A. The outcomes of the revisits are presented and discussed in the following sections of the paper.

<sup>2</sup> How to assess the validity or effectiveness of a performance measurement system is problematic. In this study, the performance measurement system is viewed as a dependent variable and it is assumed that the survival indicates a proper fit between the performance measurement system and the organisational context (see Longfield-Smith, 1997, p. 226; Chenhall, 2003, pp. 134–135; Ahrens and Chapman, 2006, pp.833–836 for further discussion).

## 3.4. Data analysis

Access was provided to numerous information sources, including archival data, formal and informal meetings, and interviews. Due to concerns about confidentiality from MM, no audio recordings were made during the project apart from two tape-recorded interviews in Phase four. The names of the company and of individuals are disguised to ensure confidentiality. (Detailed descriptions of the case company and the project are available from the authors upon request.)

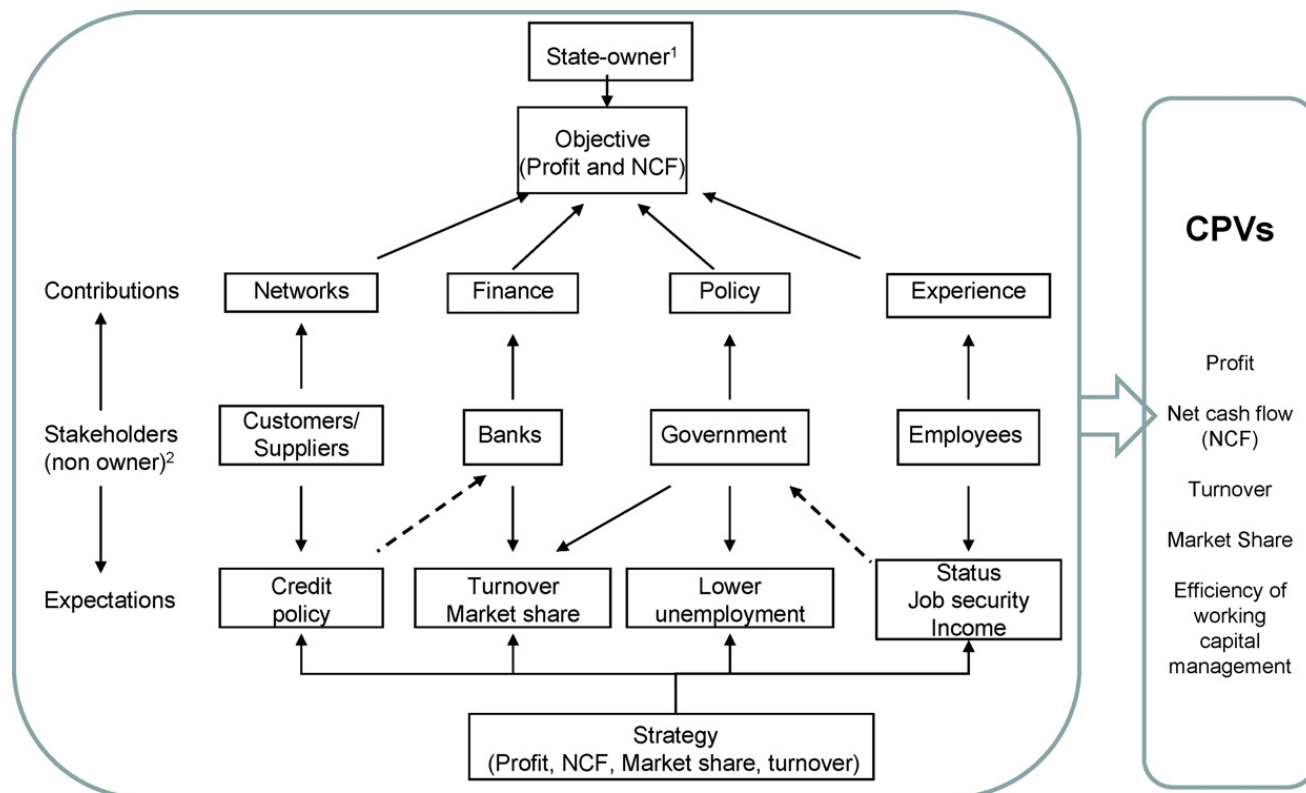
To limit possible subjective bias and to ensure the accuracy and validity of original data, two researchers were present at all interviews and meetings. All the data gathered were checked and verified by both the researchers after each event.

Although this collaboration between researchers and practitioners provided access to the field site and information sources, along with opportunities to promote change, it is possible that the method of access could be a source of bias (Malina and Selto, 2001). Based on Birnberg et al.'s analysis of field research (1990), the present study might be subject to "demand" or "expectancy" effects. "Demand effects" occur when individuals act in ways that they believe a researcher desires. "Expectancy effects" arise when a researcher's expectations about a study influence the process and outcome of the research.

For this reason, the following were adopted in order to overcome possible bias and to enable data triangulation: (1) overtly considering and explicitly discussing this possibility during the research process; (2) verifying the data between the researchers; and (3) comparing and contrasting the data from different sources, e.g. the views from managers of MM and those of the five Chinese subsidiaries.

## 4. Case analysis

This section focuses on the first research question: whether the stakeholder analytical framework can be used to identify the influencing forces behind stated objectives and strategy; and to identify the critical performance variables in the case company. The case provides evidence that supports the effectiveness of the stakeholder analytical framework described in this paper and also Jensen (2001)'s enlightened stakeholder theory. It is through the analysis of all important stakeholders' expectations and contributions that the forces behind MM Group's stated objectives and strategy and the relevant critical performance variables are identified. The overall findings from the case analysis are shown in Fig. 2.



1. As the owner, the state-owner contributes financial resources and their expectations are reflected in the objectives.
2. These stakeholders affect the achievement of objectives, but not the setting of objectives.

Fig. 2. The overview of stakeholder analysis in the MM Group.

4.1. The evolution of the objectives and the influencing forces behind it

**The objective of MM**

Maximization of profit with an emphasis on net cash flow

The main objective of MM until the 1980s was “maximization of sales” to meet the state-owner’s requirement and to accumulate foreign currency. Following Chinese SOE reforms in 1980s, the market in which MM operates has moved from a monopolistic environment to a far more competitive one, and the group has been acting more and more like an independent commercial entity. Accordingly, this objective was changed to “maximization of profit” in the 1980s and then to “maximization of profit with an emphasis on net cash flow” at the time of the study.

The state-owner reserves the power to hire, fire and compensate the executives and is the only force that has a direct influence upon the formulation of objectives. Nevertheless, the current objective statement has encapsulated the influence of the ownership structure and markets.

The ownership structure of MM and the characteristics of Chinese capital markets make applying profit to express shareholder value instead of market capitalization a reasonable choice. MM has its core enterprise listed on the Shanghai Stock Exchange but still has many unlisted business components within the group. Furthermore, as state-ownership is not tradable, market capitalization and

market prices may be distorted and may not be sufficiently reliable to be used as objectives.

The inclusion of the phrase, “with an emphasis on net cash flow” in the stated objectives of MM means that there is a requirement to achieve a positive net operational cash flow within the context of profit maximization. This reflects the importance of risk control within the environment in which MM operates. In general, the Chinese government has learned lessons from its past experience of economic reform regarding the problems of using profit maximization as the sole objective<sup>3</sup>. The problem of “triangle debt”<sup>4</sup> among SOEs in China has further forced MM to acknowledge this aspect of risk in its operations.

The requirement relating to net cash flow within the objective reflects the state-owner’s desire to limit the cash-flow-related risks inherent in profit maximization and to improve risk management. The challenge MM faced was how to communicate this to its subsidiaries.

<sup>3</sup> Since Kaplan and Norton’s work (1987), there has been extensive discussion on the disadvantages of using profit maximization as an objective. China’s state-owned enterprise reform experienced problems using this objective in a restricted market (e.g. Jones and Xiao, 1999; Hassard et al., 1999).

<sup>4</sup> “Triangle debt” refers to major chains of debt involving more than two Chinese SOEs. For example, A is in debt to B which is in debt to C which is in debt to A, and so on. It caused a serious financial crisis in Chinese SOEs during the early 1990s. For a more general discussion regarding “triangle debt” in China, see Hassard et al. (1999).



#### 4.2. The formulation of strategy and the influencing forces behind it

The strategy of MM described by the managers of the group was results oriented:

##### The Strategy of MM

Maximization of profit with an emphasis on net cash flow and achievement of a target market share

While market share usually depends upon competitive ability in a market economy, it has an additional facet in MM: business size (turnover). As observed by one of the operational managers (OM1) early in the research:

“The size of the business is vital for retaining suppliers and for keeping negotiating power in local and international procurement. It is also an important consideration for the government in distributing import quotas.”

There were, therefore, four elements to the strategy of MM:

- Profit,
- Net cash flow,
- Market share,
- Turnover.

Stakeholder analysis revealed that the strategy reflected the state-owner's requirements and also suggested a response to the expectations of other stakeholders.

The information gathered from the interviews together with knowledge from the study of the external markets (including the capital market, product market and labour market) revealed that the stakeholders involved in MM, apart from the state-owner, are (i) customers, (ii) suppliers, (iii) banks, (iv) government (as regulator, and political, social and economic custodian), and (v) employees.

Customers and suppliers have important inputs in strategy formulation. The major business of MM is international trade, so the relationships with customers and suppliers are vital to its success. The interviews with the top managers of the subsidiary companies highlighted that the most important reason for customers and suppliers to maintain their relationship with MM – in an ever more competitive market – is the group's credit policy: customers are awarded credit and suppliers are paid on time. This policy brings MM strong competitive advantages, especially when the risk element is increasingly acknowledged by Chinese SOEs due to the problem of “triangle debts”, as quoted by the operations manager of one of the Chinese subsidiaries:

“Suffering heavily from ‘triangle debts’, some small businesses have completely given up credit sales. For me, the status of a large SOE with its strong financing position is a trump-card in gaining customer and supplier trust.”

Maintaining competitive advantage had two implications for MM:

- (i) It made the efficiency of working capital management crucial to business success. It is, therefore, shown as one of the critical performance variables in Fig. 2.

- (ii) It also results in dependence on banks for business financing, represented by the dotted line in Fig. 2.

Due to China's less developed capital markets, Chinese SOEs, including MM, rely heavily on banks for

financing (PBC, 2002). The interview with the CFO of MM revealed that the most important criterion of Chinese banks in making loan decisions is turnover, and the group has to keep turnover growing at a rate which satisfies the banks.

At one time, the government policy of distributing import quotas played a vital role in the group's success. Although this factor had become less important for MM by the time the study was conducted, it was still prominent in some of its subsidiary companies. This encouraged MM to include satisfying government as a consideration in the development of its strategy. The Chinese government wishes to maintain control in the industry, to collect sufficient foreign currency to maintain a favourable balance in foreign currency inflow and outflow, and also to reduce unemployment. For MM, these governmental goals required that it maintain market share and turnover growth at certain levels.

The position of employees in MM is affected by a variety of factors. They are valuable non-financial resources in MM, because retaining customer and supplier networks relies, to some extent, upon the experience of employees. As evidenced by other studies (e.g. Park and Luo, 2001; Efferin and Hopper, 2007), it is particularly important in the context of Chinese *guanxi*, whereby business networks are based on inter-personal, mutually dependent relationships. The good status of the company, the higher remuneration that comes with working for a big firm, along with the large Chinese labour market all contribute towards maintaining employee loyalty.

However, from the viewpoint of its corporate governance structure, the power of employees in MM is limited. While MM has an Employee Council consisting of employee representatives and a Trade Union, the corporate governance structure is based on the traditional system and they sit shoulder to shoulder with three boards: the Shareholder Meeting; the Board of Directors; and the Supervisory Board. As required by Chinese Corporate Law, the latter includes one employee representative. As a result and consistent with the literature (e.g. Xiao et al., 2004), the roles of the Trade Union and the Supervisory Board are very limited. Consequently, MM employees rely on the government to protect their interests, rather than on their own direct involvement in decision-making.

An overview of the expectations and contributions of stakeholders is provided in Fig. 2. The contributions of non-owner stakeholders are vital for the achievement of the objectives due to the influences of the factors located in both MM's external and internal environments: market forces, the state, corporate governance structure, and culture. MM had, therefore, to develop its strategy to meet those stakeholders' expectations.

The satisfaction of customers, suppliers, and employees relies heavily on the relationship with banks, and government support, as shown by the dotted line in Fig. 2. The expectations of the banks and the government must be recognized, which explains why there are multiple elements to MM's stated strategy. Accordingly, the critical performance variables can be identified as profit, net cash flow, turnover, market share and the efficiency of working capital management.

The proposed stakeholder analytical framework does not itself provide standardized solutions for the design of performance measurement systems. However, based on MM's critical performance variables identified from the stakeholder analysis, the performance measurement system for MM uses a four-perspective balanced scorecard (see Appendix B). The factors that gave rise to the development of this device are discussed in Section 5.

Thus, adoption of a stakeholder analytical framework shifted the starting point to stakeholder analysis. This was used to identify the influencing forces behind the stated objectives and strategy, and the critical performance variables. The application of stakeholder analysis in the case company helped to:

- (i) demonstrate how the company's objectives and strategy were affected by environmental factors;
- (ii) reveal the full meaning (including subtext) of the stated objectives and strategy; and,
- (iii) create an appropriate tool for identifying the critical performance variables of the organisation.

The links between the stakeholders' contributions and expectations and the company's objectives and strategy, as identified from the case analysis, also provided empirical support for Jensen's (2001) 'enlightened stakeholder theory'.

## 5. Factors determining the nature of change and shaping the performance measurement system

From observation of the design process and the revisit feedback, the main characteristic of the performance measurement system was identified as its symbolic function. Previous studies have suggested that innovation diffusion fulfils a symbolic function, such as signalling a need for innovative behaviour or signifying a particular organisational image (Markus and Pfeffer, 1983; Abrahamson, 1991). In the case company, the evidence shows that the performance measurement system has been used as a symbol to attract managers' attention and to influence decision-making.

Furthermore, because of the observed involvement of compromises and inertial forces in the change process (Burns and Scapens, 2000), the nature of change in the case company could be identified as evolutionary and path-dependent.

The factors determining the characteristics of the performance measurement system and the nature of change in the case company are discussed below.

### 5.1. The expected outcomes of the project

At the first stage of research, the executives involved stated that the main expected outcome of the project was to communicate MM's objectives and strategy to the subsidiary companies. It was essential for the performance measurement system to operate successfully that the required emphasis on net cash flow was understood by and 'visible' to them all. However, although MM tried to encourage its operational managers to focus on net cash flow, they did not all fully understand the conceptual difference between profit and cash flow because most of them were specialists in trade, not specialists in finance or accounting.

In the revisit from November 2005 to March 2006, the CFO of MM acknowledged that the most important contribution of the performance measurement system was the improvement it brought in communication between MM and its subsidiary companies regarding objectives and strategy. The effectiveness of a new ratio: Net Cash Flow/Operating Profit<sup>5</sup> was also acknowledged by participants from headquarters and subsidiaries.

"Almost all state-owned companies in China used to only focus on the quantity side of income: turnover, accounting profit, etc. This resulted in a huge number of bad debts. . . The introduction of NCF/OP changed this. It is the first time that operational managers know what is meant by cash; it is the first time they have understood the link between profit and cash flow; it is the first time that they really care about cash." (CFO of MM)

The CFO further explained that, although the evaluation of performance was not directly linked to financial reward, failure to meet the NCF/OP target had two important effects: it was a strong signal to subsidiary companies that ignoring cash flow was not encouraged by MM; and it provided direction for improvement because through this ratio, managers understood the practical relationship between profit and cash flow and knew how the operational activities affect cash flow. These comments illustrate the symbolic power of the new performance measurement system.

### 5.2. Political constraints

O'Connor et al. (2006) identified political constraints as a factor hindering change in Chinese SOEs. They found a direct positive impact of political constraints upon incentives when the basis for determining incentives is consistent with the objectives of the political constraints. Consistent with O'Connor et al. the findings of the present study demonstrate that government interference acts as a hindrance to change.

It was also observed that the fact that the performance measurement system was designed to reflect the objectives of political constraints acted as a motivator for successful implementation of the performance measure-

<sup>5</sup> In limiting the scope of our discussion to the intended objectives, we are not able to provide detail in this paper of the calculation and application of this ratio. Further information is available in Li (2001) (in Chinese).

ment system in the case company. It provided explanations for the positive influence of political constraints on incentives observed by O'Connor et al. (2006), and also supports the force-selection perspective in innovation diffusion (Abrahamson, 1991). Consequently, the nature of change is more evolutionary and path-dependent, and the final version of the performance measurement system represents a "satisfactory solution in a boundedly rational sense" (Burns and Scapens, 2000, p. 12).

The effects of the government's interference on the performance measurement system design in the case company include a direct influence on the choice of performance measures and an indirect influence on the setting of profit targets. In the case company, the Chinese government's desire for industry control and sustaining employment was reflected in measures of *turnover* and *foreign currency inflows from exports* in the revised balanced scorecard as shown in Appendix B. However, the government's interference in setting profit targets was found to have hindered the proposed changes.

One of the problems MM faced was how to set the profit targets for its subsidiaries: the distribution of non-financial resources, such as customer and supplier networks and government policies, was not consistent across the subsidiary companies. For example, subsidiaries with a longer history might have developed stronger customer and supplier networks, or some might be in less competitive markets and have advantages because of government policies. This made their financial returns non-comparable and made it difficult to evaluate their performance.

MM used to set different target returns on investment (ROI) for different subsidiary companies, implicitly taking into account the uneven distribution of non-financial resources. Usually higher target ROIs were set for subsidiary companies with longer periods of operation, more benefit from government policies, and operations in less competitive markets. However, because of the lack of explicit recognition and measures of these resources, the required return could only be expressed in subjective terms. This provided opportunities for subsidiary managers to complain about unfairness and meant the annual budgeting process became an endless bargaining process. In the end, the targets set were only accepted because of hierarchical authority structure of the group. Performance measurement failed to either provide incentives or to improve goal congruence.

The quest for a solution to this situation was one of the main reasons MM Group sought help from outside. However, the need to find a solution ceased in 2001 when the state-owner issued a new policy on the setting of profit targets for MM that required profit to be in excess of both the average profit over the previous 3 years and the previous year's profit. MM solved its ROI problem by adopting this policy in setting the target profit for its subsidiary companies.

This method of setting profit targets emerged as the main area of complaint from the subsidiary companies during our revisits. The problems included game-playing in the target-setting process and earnings management. The following quote provides an example of these problems:

"Last year we truthfully reported our high earnings and then have been set a higher target, compared to other subsidiary companies. We had a difficult year this year and failed to meet this target. We are certainly not going to accept the target for next year easily. We are going to 'cry' loudly, because it works" (FM 1).

Although the state-owner set the target profit based on the previous years' financial returns, MM could still have used different methods to set targets for its subsidiary companies, but the executives of MM had no incentives to make change. Such lack of incentive is largely the result of government control over the evaluation and rewarding of executives of large SOEs.

Because of the nature of state-owned enterprises and the importance of MM to the economy, the performance evaluation and promotion of MM's executives are under the control of the Chinese government. The requirements and opinions of government officials responsible for nominating and promoting senior executives were the greatest concern for MM's executives, and for senior executives in Chinese SOEs in general (e.g. Sun, 2000; O'Connor et al., 2006).

Although the government does not directly dictate how a performance measurement system should be designed, its power is sufficient to force the executives to prioritise the government's desires. For MM, consideration of the uneven distribution of non-financial resources requires a complete database of customers, suppliers, etc. This takes time to set up and it might not be explicitly shown in the list of achievements of MM's executives. They prefer an easier approach that demonstrates the direct linkage between the performance required by the state-owner and the performance to be achieved by the subsidiary companies.

The way the performance measurement system has been designed to resonate the political constraints acts as a motivator for the successful implementation of the new performance measurement system in the case company because it is aligned with the executives' interests. It reflects a compromise between the new system and inertial forces. The nature of change has, therefore, been determined as evolutionary and path-dependent.

### 5.3. Embedding existing practice within the new model

The embedding of existing techniques within the new model received some support from previous studies. Some researchers argue that a new model needs to be rooted in the management and the organisation, so that both language and comprehension can develop (Norreklit, 2000; Malina and Selto, 2001). Embedding other techniques within new models has been suggested as an important tool for reinforcing the diffusion process in a Swedish case (Ax and Bjornenak, 2005). The present case study shows that the acknowledgment of contributions from existing practice helps to secure the support of practitioners and to improve comprehension of the new system, thereby reducing resistance.

The first example of embedding existing practices in the case company was the inclusion of multiple measures in the

revised four-perspective balanced scorecard. The application of multi-measures is common practice in China. For example, it is recommended in the “*Handbook of state-owned company performance measurement*”, issued by the Chinese Ministry of Finance and applied to the performance evaluation of SOEs throughout China (Chinese Ministry of Finance, 1996).

In addition, the *adjustment* and *overruler* perspectives in the previous performance measurements were both retained. Technically, the measures appearing under the adjustment perspective could be included under the first or second perspective of the balanced scorecard. They were kept apart because MM used to separate market share and its questionnaire on the quality of budgeting from other measures in order to highlight their strategic and managerial importance. The overruler perspective has been applied in MM's control system since the 1980s, and has been used to limit risk when allowing managers to delegate decision-making, thereby allowing the organisation to maximize flexibility and creativity. The functions of this overruler perspective in MM are similar to “business conduct boundaries” and “strategic boundaries” described by Simons (1995).

This approach of embedding the existing practice is seen as instrumental in helping the new model to become rooted in management and within the organisation in terms of both language and comprehension. However, this approach may also represent the influence of existing routines and methods on the new system, therefore reinforcing the evolutionary and path-dependent nature of change.

#### 5.4. User participation

The views presented by previous studies on the effectiveness of user participation are ambiguous. While it can be argued that user participation itself is not a determinant of system success (e.g. Markus and Pfeffer, 1983), there are also researchers who suggest that it is important for ensuring internal commitment (e.g. Haas and Kleingeld, 1999; Norreklit, 2000). The findings of the present study support the second view of user participation: the active participation of the executives in the case company helped to reduce resistance to the introduction of new concepts and contributed to continuous improvement.

For example, the concept of earnings before interest and taxation was introduced as the profit indicator to match measurements with the delegation of responsibilities, as the managers in the subsidiary companies do not have decision-making authority on financing and taxation. It was also suggested that the subsidiary companies apply variable cost, fixed cost and contribution margins in their budgeting and feedback-reporting process to better match the responsibilities delegated to their subsidiaries. Resistance to these new concepts was very strong in the first meeting where proposals were discussed with operational and financial managers from the subsidiary companies. When it was reported to the Vice-president, he announced that the proposals had his support and that managers in the subsidiary companies were required to undertake independent study to gain a full under-

standing of the new concepts. The problem was easily solved. In this instance, user participation did not just alleviate resistance; it became a determinant of system success.

Feedback from the revisit also showed that the active participation of managers contributed to continuous improvement. The introduction and proper understanding of the concept of earnings before interest and tax triggered the further upgrading of the financial management system in the case company. During the revisit, the CFO of MM described it as a by-product of the new performance measurement system.

#### 5.5. The unavailability of databases

Considering the importance of non-financial resources highlighted by stakeholder analysis, during the design process phase it was suggested by the researchers that there should be a measurement of the value added by non-financial resources to encourage retention and strengthening of the relationship with stakeholders. However, the application of this suggestion was postponed because, at that time, MM had not finished the development of its database on customer and supply networks.

The unavailability of this database reinforced resistance to the proposed change in setting profit targets within the group. Because a consideration of the uneven distribution of non-financial resources in setting profit targets necessitates measures of these resources, the executives of MM do not have sufficiently strong motives to build such a database. This factor has acted as a barrier to the proposed change.

#### 5.6. The effects of national culture

The dominant Chinese cultural values are documented as high power distance, high uncertainty avoidance and low individualism (Hofstede, 1980, 1983). Respect for hierarchy or high power distance is still deep rooted among the majority of the Chinese people and greatly influences Chinese business culture. Efferin and Hopper (2007) evidenced its effects on the management control system of a Chinese Indonesian company. The effects of Chinese culture on the following two aspects were observed in our case:

- (i) The Chinese respect for hierarchy strengthened the effects of political constraints and users' participation, either of which may further facilitate or hinder change. In MM's case, employees' obedience, stemming from the Chinese cultural value of vertical social order, played an important role in the change process. For example, as discussed earlier, it reinforced the effectiveness of interventions by executives to overcome resistance to new ideas. It also helped the subjective profit targets to work even when they raised issues of unfairness, game-playing and earnings management.

Whether this cultural value facilitates or hinders change depends on attitudes at higher levels in the hierarchy. In one case, it acted as a facilitator because of the support of executives for the change; in another, it acted

as a barrier because of the unwillingness of executives to embrace the proposed change.

- (ii) The Chinese cultural value of individual “face” and reputation enforced the symbolic effects of the performance measurement system. In the case company, if a subsidiary, especially a large one with a good reputation, does not achieve its target, the managers will lose “face”.

“If they have been publicised as one of the three worst subsidiaries in the group, they would feel disgraced and would try their best to earn back their face and reputation.” (MM CFO during the revisit)

## 6. Conclusions and suggestions for further research

By focusing on the process of designing a performance measurement system in a Chinese SOE, this study provides a framework to integrate stakeholder analysis and the design of a performance measurement system, and sheds light on the factors that affect the change process and shape the performance measurement system in the Chinese context.

This paper is an attempt to communicate China’s management accounting practice to a broader audience, thus making a contribution to our knowledge of management accounting practice in developing countries. While most previous studies have focused on the factors motivating the adoption of management accounting innovation, this study complements the management accounting change literature by providing evidence on how a new performance measurement system has been shaped and how the nature of change has been determined in the Chinese context. The findings may also be informative to policy-makers, managers and consultants seeking to promote the diffusion of management accounting innovations in China and other developing countries.

Most performance measurement models from previous studies implicitly assume the existence of clearly stated objectives and strategies, consistency between stated strategies and strategies undertaken, and easily identifiable critical performance variables. When, as in China, these assumptions appear less realistic, the acknowledgment of influences from external and internal environments becomes critically important. In this action research project, a stakeholder analytical framework was developed to identify the influencing forces behind stated objectives and strategies and to bridge the gaps between environments, stated objectives/strategies, and performance measurement. The case study demonstrated the effectiveness of this stakeholder analytical framework, and also provided empirical support for Jensen’s ‘enlightened stakeholder theory’ (2001).

The study of the design process highlights the factors shaping the performance measurement system in the case company, namely: *expected outcomes*; *political constraints*; *embedding existing practice*; *user participation*; *database unavailability*; and *culture*. In communicating objectives and strategy, the new performance system has fulfilled a symbolic function in signalling a strategic focus and affect-

ing decision-making. Political constraints and database unavailability appear to be barriers to change, but the careful and tactical consideration of political constraints in performance measurement system design provided motives for executives to embrace evolutionary change and ensured the successful implementation of the new system. The active participation of users and the integration of existing good practices contributed to reducing resistance and promoting continuous improvement. These factors have been reinforced by the Chinese culture and, together, they determine the evolutionary nature of change in this case.

Of the identified factors, some derive from or are affected by the external and/or internal environments of large Chinese SOEs. Further research that reflects upon whether the level of political constraint, the extent of the availability of required databases, and the level of user involvement will have positive or dysfunctional effects upon the nature of management accounting change and the use of management accounting techniques in such companies would be worthwhile.

The way that different expected outcomes affect a performance measurement system and the nature of change remains unexamined. For this case company, the research focused on the performance measurement system; while the company’s symbolic function might be encouraged by other formal or informal control systems, such as evaluation and reward policy, or organisational culture. An examination of these other systems and how they function would be interesting topics for further research.

Three limitations of the present study are worthy of attention:

- (i) While the collaboration between the researchers and the managers in the case company promoted collaboration and intervention, it may also have resulted in a degree of bias.
- (ii) Limited to one particular case company, the findings may not be generalisable to all Chinese SOEs.
- (iii) Although positive comments were made by MM during the revisit, the effectiveness of the proposed theoretical stakeholder analytical framework and whether it adds value remain unexamined at the time of writing, both in the particular case of MM and in general.

Finally, this study presents a stakeholder analytical framework which it has demonstrated can be used to obtain an understanding of a company’s objectives and strategy, and to identify its critical performance variables. By focusing on how change happens, the study also reveals how the nature of change has been determined and how a performance measurement system has been shaped in a Chinese context.

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**Appendix A.**

The questions covered by interviews and semi-structured questionnaires in revisit during October 2005 to December 2005.

**Part one**, changes of the environmental context since the research project completed in 2001.

**Part two**, amendments to the performance measurement system since it was implemented in 2001.

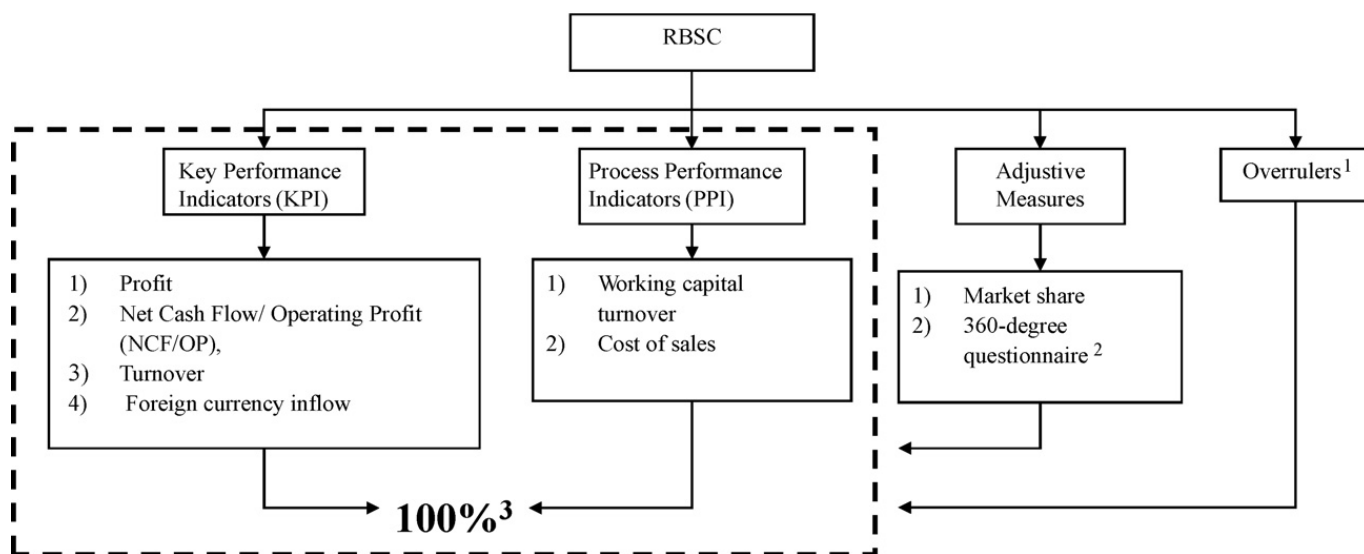
**Part three**, comments on the effectiveness of the performance measurement system in communicating objectives

and strategy, and other outcomes achieved from the implementation of this system.

**Part four**, problems experienced and lessons learnt in implementing the performance measurement system.

**Appendix B.**

The revised balance scorecard (RBSC) designed for the MM Group.



1. Overrulers mean forbidden behaviours or events, which would have significant influence on profitability or competitive advantage.

2. A 360-degree questionnaire measures cooperation between departments, the quality of budgeting, and the relationships with banks, customers and suppliers.

3. Process of weighting:

Step 1: The performance measured by KPIs and PPIs forms the basis of the RBSC, which is 100%;

Step 2: Adjustive measures adjust the results of step 1;

Step 3: The result from step 2 might be partly or completely overruled if any forbidden behaviour or event occurred.

Example: A company might have achieved 90% from the KPIs and PPIs, 90% from adjustive measures, and no problems with overrulers. This company's performance indicator should thus be  $90\% \times 90\% = 81\%$

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