The institutionalization of management accounting change: an observation across societal, organizational field, and organizational levels

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**Abstract**

The paper provides a holistic observation of the change process related to the quality control system in a Chinese SOE. Applying both framework of Burns and Scapens (2000) and Dillard et al. (2004), the longitudinal case study observed the coupling between rules and routines at the first stage and loose decoupling at the second stage in the case of adopting the Japanese style quality control system over nearly 20 years. The study further examined how such intra-organizational changes are shaped by dynamic institutions at societal level, such as market openness, government protection, and political constrains, as well as those at organizational field level, including IJV experience and trade union. The study contributes to management accounting change literature by presenting evidence on the interactions among those multi-level institutions. The findings shed light on how the policies at societal level can possibly affect intra-organizational change, which has policy implications for further SOE reforms in China and other transition economies.

# Introduction

 *“We have an IJV (Komatsu-Shantui) located just across the street opposite to our factory, and the same Japanese-style quality control system has been implemented in both factories. Yet, the workers perform better with higher product quality if they leave our factory to be enrolled into the IJV. Ironically, they retrograde to their original routines and level of production quality if they come back to our factory. ”*

- commented by the President of the case firm in our interview in 2012

In this paper, we address the issue of institutionalization and practice variation by examining how factors across societal, organizational field, and organizational level shape the practice of management control in organizations. Applying a combined theoretical framework of Burns and Scapens (2000) and Dillard et al (2004), we take a longitudinal view to investigate the institutionalization of quality control system in a Chinese state-owned enterprise, and explore in depth how and why intra-organizational change occurs or does not occur through time (Quattrone and Hopper, 2001). The theoretical frameworks combined both Original (Old) Institutional Economics (OIE) and New-Institutional Sociology (NIS) allow us to observe how the dynamic institutions across societal, organizational field, and organizational level shape intra-organizational changes. The case of adopting a Japanese-style quality control system over nearly 20 years in a Chinese SOE provides us an ideal research field, within which the case company faces complex and dynamic institutional environment.

The literature on management accounting practice was historically dominated by agent-centered models, such as contingency theory at the level of system design (see Chenhall (2003) for a review), and behavioral issues derived from agency theory (e.g. Baiman, 1990; Lambert, 2007; Williams et al., 1990) or transaction costs economics (e.g. Walker, 1998). However, such approaches have been criticized for their traditional technical-efficiency focus as they retain the core assumptions of neoclassical economics, such as economic rationality and market equilibrium (Scapens and Arnold, 1986; Scapens, 1994). There are calls for accounting research to broaden beyond technical-efficiency focus to include social and political phenomena (e.g. Macintosh and Scapens, 1990; Hopwood, 1983, 1987, 1992; Miller 1991, Miller and O’Leary 1993). As a response to such critics and calls, a considerable number of studies have examined management accounting practices from institutional theory perspectives. One stream of such studies adopts neo-institutional economics, also called Original (Old) Institutional Economics (OIE), focusing on change processes within organizations (e.g. Scapens, 1994; Burn and Scapens, 2000; and Johansson & Siverbo, 2009). Another stream of studies draw on New-Institutional Sociology (NIS) perspective and use the concepts such as legitimation and decoupling to consider external institutions in the investigation (e.g. Collier, 2001; Modell, 2001). Acknowledging the importance of both internal and external institutions, some researchers have integrated OIE and NIS perspectives in exploring the nature of management accounting change processes and the roles of internal and external forces in such processes (e.g. Siti-Nabiha and Scapens, 2005; Lukka, 2007; Dambrin et al., 2007). Dillard et al. (2004) based on, yet expanded beyond, institutional theory, and proposed a multilevel theoretical framework in attempting to depict the socio-economic and political context and address the dynamics of enacting, embedding and changing organizational features and processes.

Following the processual approach that views the unfolding characteristics of accounting system as process rather than outcome (Burns, 2000; Hopwood, 1987; Tessier and Otley 2012), we take the central theses of Burns and Scapens (2000) as a starting point, which enables us to focus on the nature of change process within the organization. We then apply the multilevel analysis promoted by Dillard et al (2004) to explore the interactive part of a larger society system in the institutionalization process. More specifically, this paper aims to answer the following questions: (1) How has the quality control system evolved in the case company over a 20-year period? and (2) What macro and micro factors have had impact on such process, and how?

The remainder of the paper is structured as follows. In the next section, we highlight the relevance of OIE and NIS to analyse organizational change and the role of management control systems in this respect. We then describe our research methods in Section 3. Sections 4 and 5 present case analysis and discussion. Finally, the last section concludes.

# 2. Literature Review and Theoretical Approach

## 2.1 Institutionalization of management accounting change at organizational level

The institutionalisation refers to both the implementation and the internalisation of new practices (Kostova and Roth, 2002). In the seminal work, Burn and Scapens (2000) offers a conceptual starting point for studying the institutionalization of management accounting change in organizations. Based on OIE, they describe management accounting system in an organization as comprised elements of rules and routines. So the change of management accounting is fundamentally the change of rules and routines. In the context of management accounting, rules are represented by the formal management accounting systems as set out in the procedure manuals, while routines are the practices actually in use. Overtime, rules can be imposed and become implemented through the establishment of routines, while other rules can emerge out of the established routines. Those rules and routines can be institutionalized in the organization to become the taken-for-granted way of thinking and behaving.

Applying OIE as theoretical foundations, it is recognised that the process of change is not as linear (Dambrin, Lambert & Sponem (2007). The relationship between rules and routines is conceived as recursive and reciprocal(Dillard, Rigsby and Goodman, 2004). In the process of enactment and reproduction of the emerging routines, the intended rules may be modified, as acceptable modes of behaviour are negotiated (Burn and Scapen, 2000). This not least means that the process of management accounting change is much more complex than the rational selection of so-called ‘optimal’ procedures and techniques. A number of case studies that adopted processual approach have evidenced such complexity (e.g., Malmi, 1997; Burns, 2000; Granlund, 2001; Soin et al., 2002; Johansson and Baldvinsdottir, 2003; Siti-Nabiha and Scapens, 2005; Scapens, 2006; Coad and Cullen, 2006; Modell and Grönlund, 2006; Modell, 2007). For example, Burns and Scapens (2000) study highlights the difficulties involved when imposing accounting change on a setting where existing institutions were not congruent to new routines. It has therefore recognized the importance of considering local institutional contexts in implementation of accounting change, including lower level (e.g. departmental and functional) contexts within the organization, as well as wider organizational and external contexts. Modell (2007) observed the similar difficulty in reconciliation of new performance management practices with the hierarchical logic embedded in the Swedish Tax Agency, but his case study suggests that the re-construction of such practices can partly overcome the barriers. It is recognised that the ‘degree of consistency’ between alternative performance management practices is not ‘given’ but open to re-construction over time, and institutional inconsistencies may constitute a source of institutional change.

Burns and Scapens’ (2000) framework and the related works focus mainly on internal institutions. Although they acknowledge the importance of external institutions, their framework itself does not provide an analytical mechanism to integrate external forces. Aiming to further the understanding of the institutionalization process inside organizations, a number of studies extends Burn and Scapens’ work (2000) by drawing on the NIS framework. The findings of those studies offer new insights into understanding management accounting change processes by exploring the decoupling phenomenon and the coexistence of stability and change. It is argued that there is no automatic coupling between an organization’s rules and its behavior. Rules can have a legitimating function to support an organization in its environment even if rules are separated from an organization’s actual behavior (Johansson and Siverbo, 2009). Empirically, Siti-Nabiha and Scapens’ study (2005) draws on concepts of legitimation and decoupling from NIS while retains the OIE perspective adopted by Burns and Scapens (2000). They present a case of that new accounting routines were ceremonially implemented in terms of the existing institutions; thereby decoupling them from the day-to-day operations of the business. They argue that the ceremonial implementation did have consequences, and it was the working out of a process of resistance to accounting change, rather than the original intention of organisational decision makers. While the change was imposed by the parent company in their case, their study observed the impact of external institutions on parent company and, through the parent company, on the case company. However, their study is still largely focused on the institutions within the organization by illustrating how the intra-organizational institutions shape change processes. Also drawing on NIS, Dambrin et al (2007) observe the institutionalisation process of a new institutional logic of consumer good industry happened to a firm in the pharmaceutical sector and explore how change in a given organisational field is institutionalised in a management control system of a given firm. Their empirical evidence shows that the institutionalization process is not as systematic as theory suggests from ideals to discourses and techniques. Change may be slowly implemented, rejected by actors, or ceremonially accepted depending on the element of the MCS under consideration. Lukka (2007) provides further supporting evidence to the co-existence of management accounting change and stability by exploring the loose coupling between rules and routines in his study of the standardization of management accounting reporting in the case company. Because two different managerial agendas, decentralized and centralized management approaches, were simultaneously in effect within the firm, the managers of the case company were not clear how far they should push to standardize, which are more compatible with centralization than decentralization, and the rule system itself therefore was ambiguous. His findings prove the coexistence of stability and change, and that an organization operating in a loosely coupled mode can still function, although it was flexibility in the informal domain that allowed for stability in the formal domain in his case.

While those previous studies enhanced our understanding of management accounting change, they are still limited in recognizing higher levels of social, political and economic issues that influence and define the organizational context, even rarely is the direct observation of their influence on management accounting change. OIE-oriented studies focus on institutions within organizations, and NIS-focused studies have not been concerned with the influence of rules on routines (Johansson & Siverbo, 2009). It is difficult to reach a complete understanding of how routines and rules change in management accounting practice without examining the links between the organizational practices and organizational field, or the possible influence of societal factors or influential actors. There is a need to consider how these influences translate down to the organizations and the actors therein, and through which MCS is internalised and actor hood is shaped (Dillard et al., 2004).

## 2.2 Institutional dynamics across organization, organizational field, and societal level

To address the above gap, Dillard et al.(2004) expanded Burns and Scapens’ framework and proposed a three-level theoretical framework to envision the institutionalization of practices as a political process, reflecting the relative power of organized interests and the actors who mobilize around them. The top level represents the overarching societal level of political, economic and social systems, within which norms and values are established and disseminated to members of the society. Governmental officials, regulators and legislators are the primary agents at the socieltal level. The organizational field level includes socio-economic configurations such as industry groups, professional institutes, geographical collectives and so forth . The organizational level consists of individual organizations, at which Burns and Scapens’ ideas could be integrated into.

By integrating structuration theory, Dillard and his colleagues further propose that there isa hierarchy of institutional influence where the top societal level provides the foundations for institutions at organizational field level, and organizational field provides the context for the institutions embedded in individual organzations. When macro-institutions change, organisations are pressured to make changes (Johansson & Siverbo, 2009). The formal organization structures are developed through the historically grounded social processes, although organizational responses to political, economic and societal settings might vary widely rather than uniform across all organizations (Eden et al., 2001; Greening and Gray, 1994; Oliver, 1991). The development of formal organization structure is also influenced by the interorganizational context in which organizations are institutionally embedded. Organisations that belong to the same field might adopt similar rules in order to maintain their legitimacy (Dillard et al., 2004). The organizational field criteria and practices, including reflection of the influences of industry and other organizations, is an interactive part of a larger social system in the institutionalization process. The actors at the organizational field level, such as industry leaders, labor unions and external consultants, as well as competitor, might grasp the strong power to become the significant institutional force.

As an effort to overcome the limitations of the neglect of power, special interests and the political nature of organizations in institutional research, Dillard et al (2004) incorporate Giddens’ structuration theory and recognize that change occurs when there is either a change in the rules or a change in the control over resources that results in a reconfiguration of the power relationship. Through the collective influence of top and second levels of macro-institutions, institutional isomorphism is created (Scott, 1991, p. 179). Some organizations are rewarded with greater legitimacy, more resources and enhanced chances of survival, while other organizations will be penalized as the isomorphic process toward greater homogeneity in organizational fields continues on indefinitely (Dillard, Rigsby and Goodman, 2004). However, isomorphism might embrace the variation of organization practice. The multiplicity of institutional pressures both within and external to an organization as well as the acceptable responses available lead to the variety of organizations responses (Eden et al., 2001; Greening and Gray, 1994; Oliver, 1991). In the literature of management accounting change, some case studies have found that adopting new rules is not equal to implementing and using them in practice. Variation arises in many different ways, by innovation and recombination of existing routines (Nelson and Winter, 1982); and by blind forms where variation creation is unintentional (Johansson & Siverbo, 2009).

In a word, change in the institutionalization process for a particular organization may variously arise from the institutional environment, inter-organizational ties, other organizations, as well as from within an organization (Zucker, 1987, p. 453; Dillard, Rigsby and Goodman, 2004). The actors behavior and management control system in their organization would be influenced by societal system and organization field level institutions. Regretfully, it is not clear that how the divergent powers of institutions initiate and/or create resistance to management accounting change at organizational level (Johansson and Siverbo, 2009). What even rare is such studies in the complex context of Chinese SOEs, within which government influences are not necessarily in decline, while market forces have become more important during institutional transition (Li, Peng and Macauley, 2013).

## 2.3 Empirical Evidence within the context of China

Since accounting as a neutral technology and an important productive force was underpinned by China’s new political ideology following Chinese economic reforms started from 1978 (Ezzamel et al., 2007, 2015), the adoption of Western management accounting practices in Chinese firms has gradually increased (Scapens and Meng, 1993, Chow et al., 2007, Duh et al. 2009). While the earlier studies in this area mainly focused on understanding management accounting practices in China by describing and analyzing the types and features of the practices in use (Skousen and Yang 1988; Bromwich and Wang 1991; Scapens and Meng 1993), more recent work has investigated the facilitators and impediments of such use to examine the applicability of findings based on the developed Western economics to the transitional Chinese economy (Duh et al., 2009; O’Connor, 2004, 2006; Firth, 1996; Li & Tang, 2009). It has been suggested that management accounting practices in China are a function of environmental and organizational attributes, such as the state ownership and the related reforms in the areas of appointment of managers and corporate governance, JV experience, competitiveness, and national culture (Duh et al., 2009; O’Connor, 2004, 2006; Firth, 1996). For example, in his study of Chinese firms, Firth (1996) found a positive association between these firms’ use of a range of ‘‘Western’’ management accounting techniques and their joint ventures’ percentage of sales from exports. He interpreted this as evidence that market competition drove the techniques’ adoption. Consistent with Firth (1996) in recognizing joint venture experience as an important positive force to facilitate the adoption of management accounting innovation in Chinese firms, O’Connor et al. (2004) also identified increased market competition as motivating Chinese state-owned enterprises to adopt Western management accounting practices.

However, the evidence on the influence of state ownership on Chinese firms’ adoption of modern management accounting innovations is mixed. Earlier studies observed that state owners tend to emphasize objectives which diverge from economic efficiency, such as ensuring social stability via employing more workers than is dictated by efficiency considerations alone (Xu and Wang, 1999; Liu 2006). As such, state ownership may play as an impeding force in Chinese firms’ management accounting change (O’Conner et al., 2006; Li & Tang, 2009). However, Duh et al (2009) observed the absence of any significant effect from state ownership in their study of facilitators, impediments, and performance effects of Chinese firms’ use of management accounting and controls through a questionnaire survey of 219 listed Chinese firms. Their findings also suggested that the Chinese government’s governance-related initiatives since 2000 have increased external stakeholders’ ability to press for performance- enhancing practices like management accounting innovations. They therefore suggest a waning of direct influence and interventions from government entities in firms’ internal affairs as China increasingly embraces privatization. However, this does not mean that state ownership has become totally irrelevant to the use of management accounting practices. First, the extent of government’s interventions varies cross industries. It is stronger in the industries classified as strategic sectors and under the government’s ‘absolute control’ than in others[[2]](#footnote-2). Furthermore, as there might be indirect impact, the direct effect potentially provides a misleading impression of the influence of state ownership. For example, state interference in certain sectors and firms may still have impact on the level of competition and managers’ autonomy, which are identified as factors contributing to the adoption of management accounting innovations (O’Connor et al., 2006). , It has also been suggested that management accounting change process can be hampered by institutional factors such as government involvement in management and human resource decisions (Shirley and Xu, 1998; Xu et al., 2002; O’Connor et al., 2006). Managers in Chinese SOEs often were appointed to their positions for reasons of political ties and seniority other than ability (Hassard et al. 1999; Li & Tang, 2009). Appointees of this type may either not appreciate the potential benefits from cutting-edge management practices, or resist their implementation to protect their own turn or influence (Xu and Wang 1999).

Overall, it seems that prior studies provide supporting evidence within Chinese context on the association between institutional forces across organization, organizational field, and societal level and the adoption of management accounting practices. Those forces include market openness and competition, state ownership, and culture at societal level, IJV experience, HR policies at organizational field level. There are some suggestions on the institutional effects across three levels, such as the government’s intervene in management decisions. However, the empirical evidence from previous studies is not totally consistent, O’Conner et al. (2006) and Duh (2009) on the impact of state ownership as an example. This inconclusive evidence might due to the facts that most previous studies are limited to looking at management accounting practices as used or not used, and the relationships between the variables as direct and linear. Notably, Duh. et al. 2008 investigated the extent of the use of particular management accounting techniques and found that the reported usage range from ‘‘not at all’’ to ‘‘very extensively’. They then suggest that managers of Chinese firms have considerable leeway in choosing their organizations’ MAC practices, implicitly evidence the loosely decoupling in management accounting change. There are a limited number of case studies further examined the change of management control systems in Chinese SOEs. For example, Li & Tang’s (2009) case study examined the design of performance measurement system in a large Chinese state-owned enterprise, and observed how the political constraints and unavailability of key databases hampered the promoted changes. More recently, Yang and Modell (2015) explored how notions of enhanced shareholder orientation influenced the evolution of management control practices in a Chinese state-owned enterprise over a ten-year period. They observed the lack of overt attempts across various managerial levels to contest the model despite the rather severe problems, and suggested some explanations such as the risk of negative career implications associated with overt demonstrations of a lack of commitment to politically sanctioned reform initiatives. While these case studies in general improved our understanding of the development of management accounting practices in China, how complex external institutional environment shape the change of management control systems at organizational level, particularly in Chinese SOEs, is still not fully explored.

The increasing importance of China’s economy and significant role of Chinese SOEs in global economy grant the necessity for further research to address the above gap in order to enrich the literature on institulization of management accounting innovations. The dynamic institutional context following China’s continuous reform and its unique development path has also made it an ideal field for institutional theory-based research with potential for theory test and development.

# 3. Research methods

This study adopts a longitudinal retrospective case study approach, which has been subject to numerous calls over recent years, and which attempts to tease out the nature and dynamics of management accounting chnage over time (Scapens, 1994; Atkinson et al., 1997; Scapens and Bromwich, 2001; Burn and Baldvinsdottir, 2005). 2004). One risk of using retrospective interview reports is that interviewees may rationalize their behavior and experiences after what happened. Such post-hoc rationalization can have cognitive reasons, such as when interviewees cannot recall each and every detail of what they have done (Ericsson and Simon 1980), or it may be due to motivational reasons, such as when they report in a self-serving manner (Heider 1958). Although the existence of post-hoc rationalization cannot be completely eliminated in retrospective interview studies, we have been aware of the issues and tried to limit its magnitude and influence. The triangulation between different sources of data is a useful method to mitigate the impact of such problems. The first hand data we collected in our own interviews could be supported or falsified to some extent.

## 3.1 Filed sites

The longitudinal case is a large publicly listed SOE in China, Shandong bulldozer limited corporation (hereafter for short Shantui). This corporation is listed in Shenzhen stock exchange (stock code SZ. 000680) and home in Ining City, Shandong Province. The primary operation of case firm is manufacturing of the products in heavy machinery segment, such as bulldozer and digger. From 2003 to 2013, Shantui has dominated the segment of bulldozers for past 10 years when its market share has steadily increased from about 45% up to over 60% and ranked in World's top 50 manufactures of heavy machinery industry.

As early as in 1995, Shantui established a joint venture with Komatsu Limited (hereafter referred to as Komatsu), a Japanese manufacture and global tycoon in the segment of heavy machinery. Komatsu has ranked in top three of global heavy machinery industry and top 500 of Fortune list. The Sino-Japanese cooperation has been involved with not only joint venture, but also training programs and technology licensing to help Shantui to learn Komtsu’s manufacturing technology and management control practices. The quality control system is one of such practices.

## 3.2 Data collection

Longitudinally, our research lasted four years from 2010 to 2014. The access to the managers and internal documents was successfully secured through the researchers’ business and personal contacts, while the higher transparency of case firm as a publicly listed company has also been helpful in data collection. The data collection started with the initial round of archival data collection, which took place in 2010 and covered the internal and external documents and reports related to the case company’s development in general and in management controls in particular. A chronology of major events related with case firm is digested from the first and second hand data and displayed in Appendix 1 . Then a semi-structured questionnaire for field interview was prepared and sent to President’s Office of Shantui and Vice President of Komatsu-Shantui to gain official access approval in 2011. The questionnaire, as shown in Appendix 2, includes the pre-set questions in a consistent manner for special topics (Berg 2001), and open-ended questions to allow respondents to express their views freely . The interviews were conducted face to face in May of 2011, April of 2012 and April of 2013, including 26 first round interviews with The President, Vice President, CFO, operation managers, manager of quality management office, and financial manager, as well as vice president of Komatsu-Shantui Engineering Machinery Co., Ltd, and nine follow-up interviewees to further clarify issues and obtain additional information relating to the key points identified in the earlier stage. The interviews lasted between 75 min and 2 h 30 min, with a median time of approximately 2 h. Most of them were recorded and transcribed. The detailed information of interviewees and interviews is presented in Appendix 3.

Additionally, we carried out two face-to-face interviews in May 2012 with two official to further explore the impact of institutions and actors at societal and organizational field level, one with an official of China Heavy Machinery Industry Association who is familiar with the history and policy of SOE reform in heavy machinery segment, and another with an official of the State-owned Assets Supervision and Administration (SASAC) who is responsible for top management’ performance evaluation of SOEs.

In addition to the initial round of archive data collection in 2010, we have followed up the development of quality control system in the case company and continually collected the relevant internal and external documents, including the updated quality control manuals, internal reports, financial reports, announcements, security analysts' reports, etc. The interviews and archival data were triangulated with each other in order to form the reliable evidence chain (Eisenhardt & Sschoonhoven 1989). Any ambiguous points arising from triangulation were further checked up and clarified, either by searching for more external or internal documents, or by further communication with the interviewees through telephone call or email.

## 3.3 Data analysis

The data analysis followed the guidelines of Miles and Huberman (1984) and Glaser and Strauss (1967, 1970). Interview data were transcribed, documented and collated, and detailed written descriptions prepared for each interview by referring to the interview themes outlined above. A form of constant comparison and cross-referencing was used to triangulate comparative data from interviews in an attempt to discern shared or conflicting views about the issues under investigation. Interview data were also cross-referenced with other data garnered from the study, while the written interview descriptions were analysed independently by the researchers involved prior to agreement being reached on the interpretation of the case study evidence. Furthermore, all participants were provided with a draft copy of an earlier version of this article for commenting, to check the accuracy and acceptability of transcript extracts, corresponded to their knowledge and interpretation of the events.

Although the study does not follow a grounded research paradigm, the general approach to code suggested by Strauss (1987) provided a useful framework for qualitative analysis. The approach to code the interview transcripts is based upon their latent content, which extends to an interpretive reading of the symbolism underlying the data (Berg, 2001) and looks for the ‘underlying, implicit meaning in the content of a text’ (Neuman,1996, p.296). We built a framework of nine codes inspired by our theoretical framework. The coding framework has been elaborated by going back and forth from our theoretical framework to the analysis of the empirical data. Transcribed interview data was coded on NUDIST NVIVO, a qualitative data analysis programme. This programme allows interview material to be coded line-by-line under the categories determined by the researchers. Codes can be drawn up from three sources: existing research questions, theory and empirical data; and more importantly, the interaction of these three elements (Anderson-Gough et al., 2005). At the same time, open coding was used to handle the data of public and internal archives, as well as first-hand data. A total of 61 entries are formed initially. Entries with similar contents or opinions are then grouped together or eliminated. Finally, 46 entries are left. Table 1 provides an example of data coding.

# 4. Case analysis - changes at organizational level

The quality control system and related management accounting practices that Shantui has imitated from its Japanese partner from mid-1990s till nowadays are highly valued by the executives of Shantui. In this section we provide a longitudinal view of the evolution of quality control system in the case company.

## Stage 1 the introduction of new quality control practice in 1990s

As China transits from centrally planned to market economy from 1992, a big challenge SOEs facing is how to satisfy their customers’ demand, rather than simply conform to government’s command as they used to. In this context, Shantui, like other state owned counterparts, has been pressurized by potential threats of domestic and international competitors. From early 1990s, the segment of heavy machinery in China had significantly expanded following the boom of investment on infrastructure construction and real estate. The growth attracted international giant groups, such as Caterpillar, Komatsu, Hitachi, to make durative investments in China. However, China’s industry policy did not allow foreign firms to enter directly as sole proprietorship or hold controlling ownership in any heavy machinery firms in China in 1990s. Naturally, international joint ventures (IJVs), with no more than 50% of shareholding for foreign partners, became a primary mode for foreign groups to access China's market of heavy machinery. As such, it had provided valuable opportunities of inter-firm learning for Chinese firms, just as what happened in the case company, Shantui.

In 1995, Shantui established an IJV with Komatsu, for short Komatsu-Shantui, having each partner holding 50% of ownership until 2002. It was the first IJV in heavy machinery industry in China and the most important channel for Shantui to learn Japanese management practice to enhance their competitive capability. The introduction and implementation of quality control system was the focus of such learning during the period of 1996 to 2000. The importance of product quality in growingly competitive market was recognized by the top management in 1990s, as retrospected by the Vice President in the interview in 2011: “*Product quality is one of the most important pillars to build competitive capability for Shantui at the era of market economy. Market would not put up with the rough and slipshod product and service of any manufacturer, no matter it is private or state owned*”. On the other hand, Komatsu’s quality control has been regarded as the industry’s benchmark. It has been developed from 1961 by several generations and over 1000 teams in Komatsu.

The adoption of Japanese style of quality control practice in Shantui started in 1996. The initial focus was on the adoption of international standard of product quality ISO9001 in its manufacturing process. To ensure effective execution of the new quality standards, Shantui established a specialized “Quality Management Office” responsible for developing product quality manuals, setting of quality goals and targets, and the supervision of manufacturing quality inspection. In addition to necessary re-engineering of manufacturing process to meet the technical requirement of new quality standard, Shantui started to apply the elements of result controls in its quality control system, such as setting quality targets to guide the manufacturing activities of production units, and using financial penalty on quality incidents to link the result of quality control to rewards. The new practice of penalty on quality incidents was introduced in 1997 and gradually progressed its implementation across the varied production units till 1999. However, the amount of penalty for workers or team leaders responsible for quality incident was not significant. The average amount of penalty from 1997 to 1999 was lower than 5% of annual salary of workers, according to the records of penalty from quality incidents over those three years.

,Higher quality standards and new rule of penalty for quality incidents challenged the ways of thinking and behaviors of workers in production units of case firm who were accustomed to low quality standards and slack quality control in traditional manufacturing process during the periods of planned economy. Product quality in Shantui was not able to meet new standard of quality control in early 1996 to 1997. The vice president of Shantui retrospected the primary problems at that time.

“*More rigid control with new quality targets and penalty brought challenges. The change was far beyond our capability and traditional routines. It forced our workers in production units to master the key parameters and control their actions more precisely in manufacturing process. Workers complained that the ways they had to work under the new requirements were just like with shackle in prison.*”

The proposed solutions were to cooperate with Japanese partner for technical support and training. As the president of Shantui told us in the interview in 2011:

*“We asked Komatsu to designate key personnel to Shantui for face to face consulting and instruction. Komatsu has also organized a series of training programs for our engineers and production line managers. The samples of products were sent to Komatsu for quality check and diagnostic analysis, and then Komatsu provided us the diagnosis reports on major problems that our samples of products have.”*

The results of such solutions seemed satisfactory. In 1999, Shantui had 95% of its main products homemade using the core technology and technics imported from Komatsu with significantly improved product quality, as reflected in annual reports from 1997 to 1999.

At this stage, the focus of change was on technical aspect. Although there was the implementation of elements of results control, the extent of intended change was limited. The employees in Chinese SOEs were used to ‘the big rice bowl’ system, with which their wages would not be affected by the performance and everyone was ‘equal’. Since the penalty related to quality incidents was very low, it was not significant enough to break ‘the big rice bowl’. The new elements of result controls are not strong enough to trigger changes in values and beliefs of employees in such a SOE. This perhaps matches with increasing but still limited market pressure under the protection of government’s industry policy. In the process of enactment and reproduction of new rules related with quality control, the problems above remarked by our interviewees could be connected with the sources of resistance to management accounting change, including the complaints and maladjustment of workers. As Burns and Scapens (2000) proposed, these problems are mainly involved with incapability and mental allegiance, which were caused mainly by technical changes in Shantui and overcome by technical solutions. It seems that the new rules of quality control related to manufacturing process at this stage were embedded into the day-to-day manufacturing activities, and there is no decoupling between rules and routines observed.

## Stage 2 Further changes from 2001 to 2013

At the advent of 21th century, the new challenges brought by China’s entrance of WTO arose to Shantui and other Chinese firms. The industry of heavy machinery had experienced evolutionary deregulation from central government. In 2004, the restriction on foreign firms’ investment in this industry was removed. As a result, the international enterprises started to invest in China in the forms of sole proprietorship or IJVs with controlling ownership. In 2002, Komatsu acquired 20% shares of IJV Komatsu-Shantui from Shantui to become the controlling partner. This had significant impact on Shantui’s financial performance figures, since the profit of Komatsu-Shantui had to be excluded from its consolidated financial statements. According to its fiscal report in 2002, the net profit of IJV Komatsu-Shantui was RMB 282 million, while the consolidated net profit of Shantui without the IJV was only RMB 148 million. Except such a change, Shantui had also continually warned the potentially negative impact of fiercer competition with foreign counterparts on its financial performance in the fiscal reports of 2000, 2001 and 2002. Growth rate of Shantui turnover reduced to 10.68% in 2003 comparing to 28.51% in the year before. The key reason of turnover downslide in Shantui is publicly recognized in 2003 fiscal report as less competitive product quality comparing to its international competitors’. As a response, the improvement of production quality was emphasized as one of its strategic goals in the new era of China’s entrance of WTO, as disclosed in 2004 fiscal report. Further changes in quality control practice were promoted since then, including refined penalty rules on quality incidents, integrated quality control into its performance evaluation system and ERP system.

First, the rule of penalty on quality incidents had been refined with more detailed incidents measurement and penalty calculation. The quality control manual in 1997 had only two pages on how the penalty should be measured and calculated with very vague ideas. In 2003 with a new version of quality control manual, three specific departments are assigned responsibilities of the identification of quality problems, judgment of responsibility of quality problems, and charging a fine against workers salary: Supervision and Inspection of Technology Office, Quality Management Office, and Human Resource Division. The procedures have been further specified as three steps: step 1, Supervision and Inspection of Technology Office provides quality report, highlighting the qualification of products with quality standards or a list of returned products due to quality problems; step 2, Quality Management Office identifies the production unites which should be responsible for the quality problems, and charges the indemnity to them; and step 3, the production units and human resource division together identify the workers directly responsible for the quality problems. In 2013, the penalty amount is calculated more carefully and rationally on the basis of the production cost of different categories of products, multiplied by different weighs with varied types of quality problems.

Despite above changes, the penalty amount has been kept at low level comparing to the salary of workers in Shantui, as shown in their internal annual reports of quality control. In our interview in 2014, the vice president of Shantui admitted: “*The mechanism of penalty has been seriously performed after initial aversion and inadaption from workers, although the ratio of pecuniary amount of penalty to the workers’ monthly salary has been pretty low*”. The managers of Quality Management Office explained that it is because the purpose of penalty mechanism is to highlight problems and explore solutions, rather than a simple punishment. However, the government officials explained it from a different angle. The official of the industry we interviewed in 2012 suggested that by keeping the penalty less significant Shantui might aim to reduce the aversion of workers. If the quality control system significantly affected their welfare, either reducing the job security or financial benefits, the workers might go riot or even strike, which would collides with the political objectives exerted on SOEs by local administration, and have negative implications for managers’ performance evaluation and career development. According to our interview with the official at State-owned Asset Supervision and Administration Commission (SASAC), SOEs must obtain approval from the local SASAC if they plan to dismiss more than 20 employees. The promotion chance of top management would be jeopardized if organizational changes trigger a street protest of employees. In this context, the case firm has never fired more than 20 workers, neither serious riots in the process of management accounting change for past 20 years. Even when the quality incidents are identified as severe, the case firm seldom directly fire workers. In our interview in 2011, the president of case firm explained the problem:

“*There is a risk of employees’ strike* *or social riots if lots of workers are fired or punished due to disqualification with their job duty. The* *president of the SOE would be held responsible for it. I would not look for troubles. Accordingly, our focus is on training and communication of the workers responsible for quality problems and helping them to improve their manufacturing skills and techniques. Even when some workers committed several times of severe disqualification with quality standards within one year, they have only been removed from key position related with product quality to somewhere less important.* ”

In addition, another key factor to restrain the penalty mechanism for Shantui is the controls imposed by local SASAC on the remuneration of its employees. The internal document provided by the case firm notes that the SASAC set the following rules for the remuneration: (1) the total salaries should be paid out to the employees are set by the SASAC, and could increase (decrease) annually 0.2% if total profit increase (decrease) 1% comparing to the last year’s; (2) in the situation of total salaries being cut down, top management’s salaries should be cut down more than those of technical and front-line employees. In this context, top management do not have motives to cut down the salaries lower than what the SASAC set up

Despite the remaining low level of penalty, Shantui further developed its performance evaluation system in 2004 to include quality control performance indicators in order to assess and monitor quality control more timely. At the first stage of quality control system implementation, the production units’ performance evaluation and quality control are separated, with only financial performance indicators included in performance evaluation. Two changes were implemented in order to integrate quality control into the performance evaluation. One is that quality performance indicators are developed to cover the various key points along the value chain. It has included the performance indicators for process controls, such as “compliance with the standards of quality control”, “effectiveness of quality control process”, and those for result controls, including “achievement of quality target”, “the index of customer satisfaction”, “frequency unqualified with quality standards” “claim amount for suppliers of components and parts”, etc. They are mainly non-financial.

On the motive of more complex indicators of quality performance, the manager of quality management office told us in an interview in2011:

“*Our firm tends to develop total quality management by linking the various indicators of quality performance along the value chain. So the indicators of quality performance include not only the ones in the manufacturing process, but also ones related with suppliers delivery and after-sale service. Hence, these indicators of quality performance can cover various key points in the value chain of case firm.* ”

By integrating product quality measures into performance evaluation system, Shantui has utilized forward and feedback control mechanisms in its quality control. At the beginning of each year, the goals of quality control at corporation level are set up, and then are divided and assigned to specific production units accordingly. For instance, a key measure of quality performance of bulldozer is fault rate of every 250 hours in manufacturing process. The target of fault rate is first set at corporate level, and then divided to production units involved in manufacturing process. In order to monitor the achievement of these targets, Shantui organizes regular quality checks each season and issues internal quality report each year to highlight the variances between actual and targeted quality performance from 2004.

Two challenges arise from the control process. First is the target setting for production units. Since product quality is affected by a variety of product units, it is difficult to separate the responsibilities and set an objective target for each product unit. It is also difficult to appreciate the complex causality between their unit’s (or job’s) quality measures and real quality performance. The ambiguous and inappropriate decomposition of quality performance targets down the organization hierarchy is the issue highlighted in internal quality reports all the time, which causes conflicts between the corporation and units, as well as across the units. The quality targets of product units have not been fully achieved for several years, including 2012 and 2013.

The second challenge is data input to support timely check up and feedback control. Shantui integrate its performance evaluation system, including primary indicators of quality control, into ERP system from 2004. Since then, the performance of all the production units is reflected in the ERP system. The executives of functional divisions, especially quality management office, can monitor and assess the performance of product units timely and in greater detail. In our interview in May 2011, CFO of Shantui stated:

“*Effective implementation of quality control needs timely evaluation of process-level and job-level performance. In this connection, our quality report including performance evaluation has been embedded in the ERP system. So it can be easier to detect what happened to the key points of quality control and diagnose the problems by rule and line.*”

However, the internal quality reports in 2012 and 2013 show that the required regular checks and performance evaluation have not been conducted to full extent. The identified problem is the collection of raw data. In order to realize the benefits of ERP system in quality control, the managers and workers of production units have to collect and input in raw data constantly into the system. In our interview in 2012, the vice president of Shantui remembered the workers’ complaint about the implementation of integrated quality control and performance evaluation system in 2005:

*“The new way of quality control needs to develop new routines on information acquisition, sharing and application rather than to simply upgrade ERP software. All the managers and employees who have to stick to the new requirements should reshape their thinking and behavior embedded in the established routines. It seems a little difficult to educate them to accept the reasons why Shantui need to evaluate performance and disclose the problems of quality control in the production units more frequently.”*

To reduce the resistance to change from the managers and workers at production unit level, Shantui organized several sessions of trainings for the managers and workers of production units in order to help them adapt to the upgraded ERP, as the minutes of conference noted. However, training is not as effective as it was at the first stage. The workers’ consciousness of best quality and routinized behavior for changed quality control at the second stage has not been significantly established, which is recognized by 2013 quality report. Embedding performance evaluation system into ERP has reduced the information asymmetry between the top management and production units’ managers. This has not been viewed positively from the viewpoint of product units, especially when the link between the monitored quality indicators and their job performance measures is not very clear or convincing.

Overall, the change of quality control at the second stage contributes to certain extent of improvement of product quality. AAA certificate in 2010 and AAAA certificate in 2014 on quality control practice was grated to Shantui by local government. However, the quality control practice remains with some severe problems to threaten its effectiveness in case firm. The problems as identified in internal quality report 2013 include the volatility of some performance indicators in product quality, which reveals the potential shortcoming of quality control in manufacturing process. The statistics in the quality report also shows that the frequencies of quality incidents have not been reduced significantly during 2010 to 2014. This implicates that more rigid quality standards have not embedded in the daily manufacturing activities to full extent.

In summary, the change of quality control and related management accounting techniques at the second stage are involved with the new rules of quality performance evaluation and quality control manual as well as the upgrading of penalty rule. However, the penalty amount of quality incidents is not financially significant, and so the employees do not have to recognize the quality problems as their occupational failure. In this context, the training seems less effective at the second stage. Besides, the integrated system of quality control and performance evaluation has been developed at the second stage with the intention of total quality management. However, the implementation of such system is discounted due to the new rules of data collection and input has failed to embed into day-to-day activities. As Burns and Scapens (2000) suggested, the resistance to change influences the pace and effect of management accounting change. In the context of case firm, the competing interests between the managers at corporation and product unit level discourages the workers to provide raw data with highly validity and transparency to control themselves. And weak threat of penalty mechanism restricts the effectiveness of proposed solutions to resistance. Consequently, the institutionalization of management accounting change at the second stage partly divergent from the intended change. The loose decoupling between rules and routines is observed (Lukka, 2007).

# 5. A dialogue between theoretical lens and case analyses

Several studies in management accounting change analysed organisational tensions, conflicts, and resistance toward change endeavours or failures (e.g., Roberts, 1990; Scapens and Roberts, 1993; J¨onsson, 1996; Malmi, 1997; Granlund, 1998, 2001; Lukka, 2007). As a result, change may be slowly implemented or rejected by actors, or ceremonially accepted, depending on the elements of MCS under consideration (Dambrin et al, 2007 ). Institutional theory provides an appropriate lens from which to make sense of such complexities in the process of management accounting change (Scapens, 1994; Siti-Nabiha & Scapens, 2005). In this study, starting point of the analysis is the central thesis of Burns and Scapens (2000), which enables us to focus on the change processe within the organization. We then apply the three-level analysis of Dillard et al.(2004) to examine how institutions at societal and organizational field level shape the changes at organizational level.

## 5.1 Institutionalization of management accounting change at organizational level

Given the implications of Burns and Scapens (2000), the section of case analysis explores evolutionary change of management accounting practice related with quality control system in Shantui. Nearly 20 years across the two stages, the case company has gone through the implementation of new standards and result controls, the change of penalty rules on quality incidents, and the integration of quality control with performance evaluation and ERP system. The first stage of change witnessed the improvement in the technical sense of quality control, and the new rules with technical change in manufacturing process have embedded into the day-to-day activities at production unit level. The incapability and mental allegiance of workers were the primary sources of resistance to change at this stage, given the technical focus on quality control change. The training as a control instrument became an effective way to solve the resistance to change. The observation of the enactment of new rules of quality control and the preliminary improvement of production routines of workers is consistent with the findings of Si-Nabiha & Scapens (2005).

At the second stage, new rules are introduced and existing rules are upgraded, including integrating the quality control into the performance evaluation system and the ERP system, as well as upgrading the rules of penalty on quality incidents. Regretfully, these changes of quality control have not reaped the proposed effect as much as in the first stage. The trainings seem less persuasive for the workers and their superiors in production units. The workers have no pressure or motivation to implement quality control change, which discourage them from investing more time and energy in improving their skills and support the new system. Till 2013, the quality performance evaluation and penalty rules have emerged out with loose coupling to some extent.

At organizational level, the reasons explored in the last section are that the competing interests between corporation and product units create resistance to the changes with raw data collection and input, and the restricted penalty mechanism failed to provide motivation to changes. The ambiguous in target setting due to the cross responsibilities among the production units in manufacturing process, the unclear link between quality indicators and units’ performance – at least from the perspective of production units, and the insignificant consequences of poor quality control due to low level of penalty, these undermined the effectiveness of target control in motivating employees’ efforts. Furthermore, the efforts needed for raw data collection and input into the ERP system become a burden to those at front-line. While integrating quality control into ERP system helps to reduce information asymmetry between executives at corporation level and managers at production unit level, and helps with timely control, it is perceived as benefits only for top managers. On one hand, these could be explained as the reconfiguration of power relationship between managers at corporation and at product unit level in the organization, and it results in resistance to change (Dillard et al. 2004). The managers and workers at production level would lose control to top management if changes occur, but they do have power, as persons to collect and input raw data, to constrain changes. It makes timely quality control less substantial, at least to certain extent.

However, the analysis at organizational level does not present a full picture. The quality control system implemented in Shantui is diffused from Komatsu, the leading Japanese manufacturer in the area, and it has been implemented successfully in the IJV *Komatsu-Santui.* As quoted at the beginning of this paper, even the top management of Shantui is amazed by the difference of the workers’ behavior in two companies just located across the street. The theoretical framework extended beyond Burns and Scapens (2000) helps us to further explore how the change process at organizational level can be shaped by the institutions at societal and organizational field level.

## 5.2 The connections between institutions at societal level and institutionalization of management accounting change at organizational level

To understand the complex nature of management accounting change in individual organizations, it requires holistic research methods which can, for instance, identify and illuminate the multi-dimensional characters of the institutional context (Dillard, Rigsby and Goodman, 2004). Thus, a combinative approach based on both OIE and NIS is necessary to explore the influence of institutions at societal and organization field levels on the institutionalization of management accounting change at organizational level. Traditionally, empirical studies examine the direct or mediation effect of some factors related with macro institutions on management accounting change, such as liberalization, investor protection, as well as government interference. But the pathways of the influence of societal institutions on the process of management accounting change and the dynamic nature of both institutions and changes are obscure in existing empirical literature, given the limitations of archival data. Instead, the methodology of case study with internal thick data can contribute to reveal the potential connections between exogenous institutions and the sources of resistance to change at organizational level.

Given the cues from the case analysis in last section, how the dynamic and intertwined institutions at the societal and organizational field level enable and constrain management accounting change in the case company is further discussed below.

### First, the dynamic association between market openness and management accounting change

The case study reveals that fiercer market competition due to the transition from planned to market economy motivate the case company to adopt the Japanese style quality control system, which is consistent with previous studies on the diffusion of management accounting techniques in Chinese SOEs (Duh et al., 2009; O’Connor, 2004, 2006; Firth, 1996). More importantly, the case analysis extends beyond the findings of previous empirical analysis and reveals that the association between market openness and management accounting change is dynamic and complex, rather then linear.

While the market competition became fiercer yet still limited at the first stage due to the government’s industry policy to restrict the foreign companies to enter as sole proprietorship or controlling partners, management accounting change related to quality control in the case company was limited to technical aspects matching with limited market pressure. The new rules were embedded into day-to-day activities. At the second stage, the deregulation in the industry and entry to WTO in the 21st century released the restrictions on the entry of foreign investment and further opened the markets to international competition. The changed markets brought higher pressure for product quality, and pushed the case company to further its change in quality control system. However, different from the first stage when the resistance could be resolved by technical solutions, the promoted change at the second stage has not been fully achieved. The more intense market competition does not necessarily bring more substantial intra-organization change. The impact of different but intertwined institutions brought complexity to change process.

### Second, the impact of government protection and political constrains

As is noted in the section of case analysis, the incapability and mental allegiance of Shantui’s workers become the important source of resistance to change across the two stages, however, the resistance at the first stage was resolved by technical solutions, while it persistent at the second stage. Further analysis indicates the association between dynamic institutions at societal level and the resistance to intra-organizational change. Such institutional forces in the present case include government’s protection from market pressure and political constrains.

First, although the industry in China is deregulated in the new century, the case firm as an important SOE in heavy machinery segment of China has still enjoyed the political protection to some extent even after China’s entrance of WTO. For instance, China's heavy machinery market underwent a sharp decline in 2012 because of macro-economic downturn, but Shantui received a significant subsidy with 42 million (RMB) from local government, according to the announcement released at the end of 2012. According to the report from a security analyst, this subsidy accounted for vast majority of annual earning of Shantui in 2012. The subsidy, more importantly the company’s expectation on government’s help in critical situations, offsets the pressure from market competition and encourage inertia. The employees in the case firm are not pressurized to change their minds and behaviors revolutionarily. A manager commented when were asked the extent of tolerance to workers’ negative attitude to quality control that *“it depends on how bad the situation is and how long we can count on the government’s rescue”*. This is consistent with the suggestions of previous studies that managers learned to cope with systems characterised by paternalism and lacked independent thinking and reform initiative under state socialism, (e.g. Child & Markóczy, 1993, Yang and Modell, 2015).

Second, the political constraints are another factor at societal level potentially connected with the sources of resistance to change. As government involvement in management and human resource decisions (Shirley and Xu, 1998; Xu et al., 2002; O’Connor et al,. 2006), state owners tend to emphasize objective diverging from economic efficiency, such as ensuring social stability and employing more workers than is dictated by efficiency considerations alone (Xu and Wang, 1999; Liu 2006).*).* In the case company*,* interests conflicts between managers at corporate and at product unit level are identified as source to resistance, particularly at the second stage.Information asymmetry and competing interests between top and middle managers perhaps are a common existence in all organizations. With proper designed mechanisms of management control and governance, they do not have to become the sources of resistance to change aiming at improving efficiency. However, within the context of Chinese SOEs, the political constrains restrict the choices and have negative implications for the effectiveness of such mechanisms.

As shown in the case analysis, the top management of Shantui are discouraged to increase the significance of penalty on quality incidents for the consideration of social stability, which is an important political objective imposed on the case company. This political constrains become effective in the case company through the government’s direct interfere in HR decision on the employees’ remuneration and the negative implications on managers’ career associated with social instability caused by intra-organizational changes. Since the job security and financial welfare of the managers and workers at front-line are not going to be affected significantly by product quality and financial performance of the company, they would not be well motivated to support the promoted changes in the organization, e.g. to collect and input timely and accurate data from manufacturing activities to improve information transparency and assist quality control. It is through the impact of political constrains on HR decisions in the company that the resistance to change from competing interests between different level of managers cannot be resolved.

In summary, as for the top management of the case company, there are two different institutional criteria at the societal level: market efficiency and political consideration. Following the globalization of economy, there is no doubt that Chinese SOEs are facing more and more fierce market competition. To the case company, it needs stricter quality control to meet the demand from the market. However, on the other hand, political constraints from the government hamper the changes needed to improve product quality. While the government’s protection, such as the industry policy at the first stage and subsidy at later stage, helps the company to balance between these two opposite forces, the question is that how long the government would, or is able to, provide such protection. The dynamics of those institutional forces at societal level created uncertainty at organizational level. The managers in the case company probably are not sure how far the employees should be pushed to improve quality, or how long they can survive through the loose coupling between rules and routines, which is a situation similar to what described in Lukka’s case (2007). This reflects in the ambiguity of the rule system of penalty itself: the mangers developed more strict quality assessment, but the consequences of assessment remain insignificant.

## 5.3 The connections between institutions at organizational field level and institutionalization of management accounting change at organizational level

In the theoretical framework proposed by Dillard et al (2004), the second level consists of organization field,including industry groups, key suppliers,labor unions and external consultants,resource and product consumers, competitors, and so forth (DiMaggio and Powell, 1983). As Dillard et al (2004) stated, organizations are institutionally embedded in the organization field. The key actors at organization field level may have significant influence on the development of formal organization structure in one specific firm. One of the potential outcomes for such influence is the mimetic isomorphism. The roles of trade union, which substituted by political constrains, and IJV partner are observed in such a process in the case study.

The trade union might become fierce opponents if the new rules introduced by adding management accounting techniques significantly break vested interest of employees. As such, the bargaining power of trade union becomes the key factors to influence the resistance power to change with intra-organizational interest conflict. However, corporate governance mechanism in China does not give the trade union a substantive bargaining power. Previous studies find that the trade union and supervisory board including employee representatives are quite symbolic in major decision of the firms (Xiao, et. al. 2004; Li and Tang, 2009), and employees heavily rely on local government to protect their interests. Consistently, the trade union in the case company has never expressed any concerns to the change of quality control and relevant management accounting techniques. Relating to the discussion on the effect of societal institutions, it is observable that the political constraints actually act as a substitutefor the role of trade union in protecting employees’ interests in the process of change. Since societal institutions are at ‘overarching’ level, within which norms and values are established and disseminated to members of the society (Dillard et al. 2004), having it to replace the institutional force at organizational field level would lose the channel for interaction between actors at organizational field and a individual organization. It is the case in Shantui where the employees are protected from intra-organizational change, without efforts to negotiate for a compromised solution best for the employees’ long-term welfare and the company’s success.

In their studies of Chinese firms, Firth (1996) and O’Conner et al. (2004, 2006) found a positive association between the JV experience and adoption of ‘‘Western’’ management accounting practices. But the empirical findings could not reveal the potential connections between the sources of resistance to change and institutions at organization field level. As is analyzed in last section of this paper, the IJV had become a primary mode for multi-national enterprises to access China's market of heavy machinery from 1992 through 2004. Thus, China’s firms in this segment had gotten a valuable chance to learn the management control practice from its foreign partners.

In our interview in 2011, the president of BoD of Shantui stated:

“*We were impressed on the rigor and accurate procedures of quality control at product line and supply chain of Komatsu when we visited its factories in Japan. Our cognition on quality control was transformed, and our confidence became strong because our joint venture (Komatsu-Shantui) with guidance of Komatsu already begun to establish the quality control system with Komatsu style.*”

More specifically, the training sessions conducted by Japanese partner Komatsu at the first stage contribute significantly to develop workers’ consciousness and capability of quality control in Shantui. Applying the theoretical lens of OIE and NIS, the foreign partners in the IJV for case firm are conducive actors to release the resistance power to change arising from incapability and mental allegiance of workers in production units of case firm. The learning from Komastu continues in the second stage, including the integration of quality control with performance evaluation, which helps the employees to understand how the financial and non-financial indicators are linked with each other and how they collectively affect their job performance. Although the case firm lost the controlling ownership of the IJV from 2002, the cooperation has continued. From 2008, case firm becomes one of the key suppliers for Komatsu and Hitachi to deliver the products of caterpillar track and chassis. In our interview in 2014, the former director of Shantui told us:

*“Profit is not our primary objective to become the supplier of* *Komatsu and Hitachi. We have to conform to more stringent requirements in product quality prescribed by Komatsu and Hitachi. The process of compliance with these higher quality standards helps us to strengthen the execution of quality control system in Shantui and to correct the traditional problems existing in our manufacturing routines. It becomes exogenous drivers for us to improve the quality control practice.*”

Hence, the experience of IJV not only introduced Shantui to the new rules related with management control practice, but also facilitated the institutionalization of these new rules through the inter-organizational learning, which went beyond the IJV experience.

Furthermore, efficiency is not the only motive for Shantui to learn from the IJV and its Japanese partner. The legitimacy with the form of mimetic isomorphism plays an important role as well. The adoption of quality control system learned from the leading Japanese company and international standards are important criteria for Shantui to win the AAA and AAAA certificate, and also financial support such as subsidy in 2012, from the government. This explains, at least partly, why the managers still upgrade the quality control system to adopt stricter quality assessment, even when the consequences of such assessment remain insignificant. This provides evidence for the collective influence of top and second level of macro-institutions in creating isomorphism (Scott, 1991), and the configuration of power relationship in the control over resources during the institutionalization process. Within the context of Chinese SOEs, an organization needs to pursue greater legitimacy in market and also from the government, as both with power of control over resources. While the institutional isomorphism is created in the pursue for legitimacy, the variation of organization practice is also embraced in it due to the variety of organizational responses to how to balance between these two institutional forces (Oliver, 1991; Dillard et al. 2004). Such observation proves helpful of the theoretical framework combined OIS and NIS in depicting holistic picture on the institutional process of management accounting change.

#### Conclusion

Benefited from the theoretical guidance provided by both frameworks of Burns and Scapens (2000) and Dillard et al (2004), the present study presents a holistic observation of the change process related to the quality control system in a Chinese SOE. Our observations on the interactions among the institutions across societal, organizational field and organizational level and how they impact on intra-organizational change enhanced our understanding of management accounting change.

First, at organizational level, the changes in implementing the Japanese style quality control system experienced two stages over nearly 20 years. At the first stage, the implementation of new quality control system focused on technical changes. The resistance arising from the incapability and mental allegiance of the employees was overcome by technical solutions, such as trainings, and new rules were embedded into the day-to-day activities in manufacturing process. At the second stage, following the changes to stricter quality performance assessment and integrating quality control indicators into the performance evaluation system, the case company intended to promote timely control and enhance quality performance accountability. However, penalty on quality incidents, an important mechanism to enhance the accountability of quality performance, was used more symbolically due to the remaining low level of penalty. It is also observed that promoted changes resulted in the reconfiguration of power relationship between managers at corporation and at production unit level in the organization, which leads to resistance to change (Dillard et al. 2004). The managers and workers at production unit level would lose power due to reduced information asymmetry in timely quality control, and the employees as powerful actors in the change process were not motivated to support the change. The new rules have not been fully transferred to routines in day-to-day activities due to untimely and inaccurate data collection and input.

The institutional analysis applying OIE perspective shed light on the nature of changes and the sources of resistance to change in the organization, however, it does not present a holistic picture to explain why the same system could work better in the IJV located across the street. The three-level framework promoted by Dillard et al (2004) helps us to further explore how the dynamic and intertwined institutions at the societal and organizational field level enable and constrain management accounting change in the case company.

The institution forces at societal level are observed as market openness, government protection, and political constrains. Consistent with previous studies on the diffusion of management accounting techniques in Chinese SOEs, the case study confirms that fiercer market competition due to the transition from planned to market economy motivate the changes in the case company (Duh et al., 2009; O’Connor, 2004, 2006; Firth, 1996). More importantly, the case analysis extends beyond the findings of previous empirical analysis and reveals that the association between institutional forces and management accounting change is dynamic and complex, rather then linear. While market openness provides motives for more substantial changes in quality control, different from the first stage when the promoted change was limited to technical aspects and the resistance could be resolved by technical solutions, the promoted changes to reflect fiercer market competition at the second stage have not fully achieved and a loose decoupling between rules and routines are observed. It is further observed that the dynamic and intertwined institutional forces of government protection and political constrains, together with market forces, brought complexity to change process. Although the industry in China is deregulated in the 21st century, the case firm as an important SOE in heavy machinery segment of China has still enjoyed the political protection to some extent even after China’s entrance of WTO, such as receiving financial subsidy to “create” profit in difficult times. It is also observed that political constrains become effective in the case company through the government’s direct interfere in HR decision on the employees’ remuneration and the negative implications on managers’ career associated with social instability caused by promoted changes at organizational level. This restricts the managers to use solutions to resistance to changes that could be effective in market economies. The top management of the case company needs to meet the challenges from two different institutional criteria at the societal level: market efficiency and political consideration. While the government’s protection, such as the industry policy at the first stage and subsidy at later stage, helps the company to balance between these two opposite forces, the question is that how long the government would, or is able to, provide such protection. The dynamics of those institutional forces at societal level created uncertainty at organizational level. The managers in the case company probably are not sure how far the employees should be pushed to improve quality enough to meet the demand from the market, which is a situation similar to what in Lukka’s case (2007). The balance reached through loose coupling between rules and routines may prove insufficient if the company is not able to develop in line with the dynamic institutional demands it encounters in future, from either the change of market pressures or political demands, which are beyond the control of any single organization. Following the globalization of China’s economy, Chinese firms, including SOEs, are more and more exposed to international completion. To some extent, the loose decoupling management controls, quality control in the case, would become insufficient to survive and success. In such a case, more serious efforts to change the rules at societal level would be needed. At this aspect, the present study has policy implications for the reform of Chinese SOEs. Theoretically, further reforms of Chinese SOEs may evidence that the pressure on changes at organizational level influences the institutions at the societal level. Actually at the time of writing up the paper, the State Council of China issued a new ‘Guideline to deepen SOEs reform’ on 14th September 2015. It states that ‘The government will improve the competence of SOEs and turn them into fully independent market entities’, which provide supporting evidence on our argument,.

Finally, it is also observed that the political constraints act as a substitutefor the role of trade union in protecting the interests of employees, which acts as a impediment to change in the case company. Since societal institutions are at ‘overarching’ level, within which norms and values are established and disseminated to members of the society (Dillard et al. 2004), having it to replace the institutional force at organizational field level would lose the channel for interaction between organizational field and a individual organization. It is the case in Shantui while the employees are protected from intra-organizational change, which might be necessary for the success or even survival of the company.

While Dillard et al (2004) claimed that ‘there is a hierarchy of institutional influence where the economic and political level provides the foundations for organizational field level institutions, and the organizational field provides the context for the institutions confronted by and embedded in organizations’ (p513), we argue that such influence is not only in the way of top-down. Our empirical evidence suggests a multilateral and interactive relationship among institutions at societal, organizational field and organizational level, and intra-organizational change could be shaped by the intertwined institutional forces beyond organizational level.

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 [↑](#footnote-ref-1)
2. In 2006, seven sectors were identified as with strategic importance and the state would keep “absolute control”. They are defense, electricity generation and distribution, petroleum and petrochemicals, telecommunications, coal, civil aviation, and waterway transport. The Chinese authorities have also designated “basic” or “pillar” industries— machinery, automobiles, electronics and information technology, construction, steel, base metals, and chemicals—where the state is expected to retain a “somewhat strong influence” – World Bank, 2012. [↑](#footnote-ref-2)