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Value-driven responsibility accounting:
**dynamic tensions generated by competing values embedded
in the management control system**

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Abstract

This paper explores the way dynamic tensions are created by the management control system (MCS) at the lower management level in the context of a more flexible mode of management. Using Simons' levers of control (LOC) framework, we adopt a case study method to investigate the way in which core values affect the design and use of a responsibility accounting system, which in turn shape the challenges which operational managers face, and how such managers fulfil their responsibilities by delivering financial results while at the same time being faithful to the organisation's core values. Contrary to the existing literature, which argues that internal consistency of core values is required in order to create dynamic tensions, we find that dynamic tensions are created by competing elements of the core values, which are embedded in various facets of the responsibility accounting system. This paper contributes to the extant literature on dynamic tensions first by demonstrating how competing elements of core values affect the design and use of a responsibility accounting system; second by illuminating how these competing values are enacted in the practice of the MCS at the lower management level; third by illustrating a more nuanced understanding of dynamic tensions by showing the relative and multi-directional forces exerted by the MCS; and finally by adding another type of inherent tension that MCS should manage to those between efficiency and flexibility, that is, inherent tensions between community values and market concerns.

Keywords: levers of control; dynamic tensions; responsibility accounting system; core values; competing values

Introduction

The test of a first-rate intelligence is the ability to hold two opposed ideas in mind at the same time and still retain the ability to function.

F. Scott Fitzgerald (1956) *The Crack-Up*

The above quotation is cited in a collection of speeches delivered by the founder of the case company in this paper (Inamori, 2014, p. 213). The founder, Kazuo Inamori, made it clear that the quality referred to by F. Scott Fitzgerald is necessary in order to be a good manager. The quotation resonates with the functioning of dynamic tensions in Simon's levers of control (LOC) framework. Within the LOC framework, management control systems (MCS) generate opposing forces in order to manage inherent tensions 'between freedom and constraint, between empowerment and accountability, between top-down direction and bottom-up creativity, between experimentation and efficiency' (Simons, 1995, p. 4).

This paper investigates how different management control systems are used jointly to create dynamic tensions with which competing priorities such as efficiency, flexibility, market concern, and communal values are attained at the lower management level of organisations. We use Simons' (1995, 2000) LOC framework to examine the relationship among MCS; specifically, we analyse the relationship between core values and the responsibility accounting systems of organisations using a case study method. In so doing, we illustrate the way in which MCS create dynamic tensions, and demonstrate the effects of these tensions at the lower management level in the enactment of various competing values simultaneously.

Simons (1995, p. 34) explained that belief systems primarily consist of the core values which provide positive energy to enact strategy in an organisation. The importance of organisational missions, visions and credos is recognised in management discourses (Analoui

& Karami, 2002; Calfee, 1993; Kotters, 1990; Trice & Beyer, 1991; Westley & Mintzberg, 1989), and in this regard the LOC framework provides unique insights by linking various facets of strategy with core values and other types of MCS. The link between core values and other MCS, such as a responsibility accounting system, concurs with an emerging research stream which attempts to reposition the role of core values and emotions at work as potentially productive organisational features (Boedker & Chua, 2013; Bolton & Houlihan, 2009; Chenhall, Hall, & Smith, 2013; Dutton et al., 2006; Huy, 1999).

Belief systems and boundary systems in Simons' LOC are compatible with notions of organisational culture (Simons, 1995, p. 57). Indeed, in a similar way to the LOC, corporate culturists such as Peters and Waterman (1982) viewed improvements in productivity and quality flow from corporate cultures that *systematically* recognise and reward individuals for identifying their sense of purpose with the values which are designed into the organisation (Willmott, 1993). Corporate culturists presupposed that corporate culture is a coherent set of values which are internally consistent.

Contrary to this monolithic understanding of corporate culture, which assumes that there is a linear relationship between strengthening corporate culture and the controllability of employees' hearts and minds, the LOC framework acknowledges that corporate culture has positive and negative sides and that they need to coexist in order to create dynamic tensions (Simons, 1995, p.7). Belief systems and boundary systems in Simons' LOC framework consist of explicit, value-laden statements which explain why certain things should be done (belief systems) and should not be done (boundary systems). The LOC framework presupposes plural values which are potentially conflictual. This suggests that the relationship between the strength of corporate culture and the controllability of employees is more complex than corporate culturists have assumed. This paper investigates the relationships between the elements of corporate culture instilled in core values and other MCS, and

demonstrates that a strong corporate culture with competing values influences the way in which operational managers view the world, makes sense of the situation they are in, helps them to understand their responsibilities, and also enables them to cope creatively with managerial challenges in rapidly changing environments.

The idea of opposing forces which create and manage dynamic tensions underlies Simons' LOC framework (Tessier & Otley, 2012, p.172). The framework recognises the need to balance competing demands and inherent tensions by generating dynamic tensions between positive and negative forces, which in turn are created and managed by MCS (Simons, 1995, pp. 4-6). Inherent tensions in the LOC framework refer to fundamental managerial dilemmas of organisations while dynamic tensions are those created by opposing forces that MCS generates. MCS are used to control inherent tensions in order to ensure the attainment of organisational goals and also to enable employees to search for opportunities and to experiment with changing situations (Ahrens & Chapman, 2004; Chenhall & Morris, 1995; Mundy, 2010; Zimmerman, 2005).

The positive and negative dimensions of MCS are pivotal to understanding how dynamic tensions are generated and managed. However, the idea of positive and negative dimensions of control has received little attention and mainly remains unexplored (Tessier & Otley, 2012, p.173). This paper intends to advance our understanding of the multiple dimensions of MCS which generate and manage dynamic tensions at the lower management level. In order to fulfil this purpose, this paper explores how core values affect the design and use of a responsibility accounting system in an organisation, how such a system creates dynamic tensions, and how such dynamic tensions help/force an organisation's members to attain pre-set goals in changing environments while being faithful to core values.

This paper contributes to the current understanding of dynamic tensions by showing what, and how, dynamic tensions are created. While existing literature has focused upon the

inherent tension between efficiency and flexibility (Ahrens & Chapman, 2004; Chenhall & Morris, 1995; Frow, Marginson, & Ogden, 2010; Mundy, 2010; Zimmerman, 2005), this paper explores related but different types of inherent tension, such as those between market concern and communal values. We illustrate a variety of dynamic tensions perceived at the lower management level which are systematically linked to the functioning of MCS, and consider their effects on, and the immediate consequences of, creativity and learning at the lower layer of an organisation. We will also demonstrate that an important source of dynamic tensions is the potentially conflicting competing values in core values, which is in contrast to the prior literature which has emphasised that the balanced use of MCS requires the internal consistency of a belief system (Mundy, 2010).

The remainder of the paper is organised as follows. In section 2, we review the extant literature on the LOC framework in order to locate the theoretical context of this paper. In the third section, we explain research methods along with an overview of the case sites. The fourth section presents the findings from our field study. In the fifth section, we discuss the implications of our findings before drawing conclusions in the final section.

Opposing forces in Simons' levers of control framework

Simons' LOC framework has been used to study the relationships between various types of MCS and their antecedents and the effects upon organisational behaviour and performance. For example, the LOC framework has been used to investigate the relationships between innovative activities and styles of accounting control (Bisbe & Otley, 2004), the two-way relationships between strategies and MCS (Kober, Ng, & Paul, 2007), and the relationships between strategic environments and the way MCS are combined and used (Widener, 2007). The LOC framework has been employed to examine how the controlling and enabling uses of MCS are balanced (Mundy, 2010), and how managers seek to reconcile their responsibility

for attaining their individual targets with the need to promote the more collective approaches required to meet strategic priorities (Frow, Marginson, & Ogden, 2010).

The LOC framework consists of four interdependent MCS, namely belief, boundary, interactive control and diagnostic control systems, all of which respond to the inherent tensions within organisations to implement strategy. MCS are used by managers to transmit and process information within organisations in order to attain desired goals. The LOC framework has evolved to view diagnostic and interactive control systems as different styles of use of cybernetic control systems (Bisbe, Bastia-Foguet, & Chenall, 2007) and to regard belief and boundary systems as different effects of symbolic systems on members of organisations (Frow, Marginson, & Ogden, 2010).¹

Recently, the concept of dynamic tension has emerged as a key theoretical focus of the LOC framework (Frow, Marginson, & Ogden, 2010; Henri, 2006; Mundy, 2010). Simons (1995, p. 153) explained that the interplay of positive (Yan) and negative (Yin) forces generated by MCS creates 'a dynamic tension between opportunistic innovation and predictable goal achievement that is necessary for profitable growth'. Dynamic tensions produce unique organisational capabilities which give organisations a competitive advantage (Henri, 2006; Mundy, 2010; Widener, 2007). This is because the way in which organisations deal with challenges associated with the development and management of dynamic tensions results in a necessary balance for achieving desired goals under uncertainty by encouraging learning and innovation (Frow, Marginson, & Ogden, 2005, 2010; Marginson, 2002).

The success of attempts to deploy a number of levers of control simultaneously ultimately depends on how effectively operational managers interpret the patterns of control

¹ Although Simons (1995, p. 50) explicitly stated that 'an interactive control system is limited, by definition, to a system which generates information that is an important and recurring agenda addressed by the highest levels of management', this paper mobilises the concept of an interactive control system 'as a process in which targets and priorities could be reassessed and adjustments made in the light of changing circumstances in order to pursue what was thought would best serve the achievement of the organisation's overall goals' (Frow, Marginson, & Ogden, 2010, p. 452).

they are expected to apply, and how they use their discretion in doing so (Frow, Marginson, & Ogden, 2010; Tuomela, 2005). Successful managers use MCS to provide stability and certainty by assuring goal congruence among various organisational activities. At the same time, managers should use MCS in an enabling manner so that organisational members are encouraged to make decisions autonomously, which in turn results in organisational flexibility and adaptation (Mundy, 2010; Roberts, 1990; Sprincke, 2003). Frow, Marginson, and Ogden (2010) found that the practice of continuous budgeting as an integral part of larger MCS contributes to the imposition of financial discipline to achieve pre-set targets while enabling organisations to alter action plans and reallocate resources in management processes, thus improving managers' ability to respond rapidly and creatively to unforeseen contingencies. Mundy (2010) found that interactive control systems play a significant role in achieving and sustaining a balance between controlling and enabling uses of MCS.

Belief systems communicate fundamental values and strategic visions, while the values and visions are given specific meaning and purpose when managers convert them into measurable success factors (Bhimani & Langfield-Smith, 2007; Marginson, 1999). Drawing on the notion of belief and boundary systems, Marginson (2002) found that a company's belief and boundary systems had an emancipating effect on strategic activity by creating a climate which encouraged members of the company to suggest new ideas to others. He suggested that belief systems interact with other MCS to affect managers' strategic endeavours not through alignment among different MCS, but through the tensions among them (Marginson, 2002, p. 1025).

Mundy (2010) studied dynamic tensions in relation to all four MCS and elaborated that a belief system is connected to interactive processes in strategic planning and to diagnostic processes because core values serve as the basis for appraisal and performance measurement (Mundy, 2010, p. 507). Mundy emphasised the importance of internal

consistency when balancing the different uses of MCS, especially the role of internally consistent belief systems, by ensuring that employees receive clear and coherent messages about the importance of particular organisational imperatives and priorities (Mundy, 2010, p. 513). She argues that a belief system strongly affects other control levers in such a way that the internal consistency of the belief system, and consistent reflections of the belief in other levers, are necessary to maintaining a balance between the controlling and enabling uses of MCS, thus generating dynamic tensions.

However, the importance of an internally consistent belief system, and the consistent reflections of the belief in other control systems, implies the passive nature of those under control (Tessier and Otley, 2012). When an internally consistent, monolithic belief system is imposed upon employees successfully, and when the belief system is reflected in the diagnostic control system, in areas such as performance measurement and appraisal, employees are likely to be controlled effectively to the extent that they are subjugated by the MCS (Willmott, 1993).

The presupposition about the passive nature of actors and the relative inattention to the lower layers of organisation in LOC study leaves a theoretically important gap. It has been widely acknowledged in the literature that strategically implicated learning occurs at every corner of an organisation (Burgelman, 1983, 2002; Nonaka and Toyama, 2007; Tsoukas, 1996, Whittington, 2006). Recent studies on enabling control have also revealed that MCS's design and redesign could be initiated by those under control (Ahrens & Chapman, 2004; Jordan and Messner, 2012; Jorgensen and Messner, 2010; Wouters, 2009; Wouters and Roijmans, 2011; Wouters and Wilderom, 2008). When employees are not assumed to be passive actors, the interest in organisational learning in Simons' LOC framework creates a theoretical space for further enquiry into the ways in which dynamic

tensions are generated and managed by opposing forces of MCS at the lower level of organisations.

We will shed light on the roles of MCS at the lower management level by focusing particularly on the relationships between core values and the responsibility accounting system and the way in which the core values function. A responsibility accounting system in this paper is understood as a management accounting system with which resource allocation decisions are decentralised while maintaining centralised information and control over performance evaluation and accountability (Bloomfield, Coombs, Cooper and Rea, 1992, p. 198). **With responsibility accounting system, responsibility-center (RC) managers are either individually accountable for an organizational subunit such as a department or division (Horngren, Datar, & Foster, 2006; Merchant, 1985; Simon, Guetzkow, Kozmetsky, & Tyndall, 1954), or groups of RC managers (e.g., committees, cross-functional teams) are jointly accountable for their aggregate performance (Rowe, Birnberg, Shields, 2008, p.165).** As will be explained in detail, the case company, Kyocera, uses a mini-profit centre system in which the lowest level managers are allocated profit responsibility under a centralised PMS while planning, decision-making, and administrative power are delegated (Adler & Hiromoto, 2012; Cooper, 1995). Examining the practice of such a responsibility accounting system and its relationships with core values allows us to understand better the interactions and learning at the bottom layers of an organisation.

Method

The analysis of this paper is based upon a field study conducted in a Japanese manufacturing company and a consulting arm offshoot of the company's planning office. We adopt an understanding of field research according to which the main task of the researcher is to enquire into a field of practices and to make sense of the field data by abductive reasoning,

that is, by moving back and forth between data and theory (Ahrens & Chapman, 2006; Lukka & Model, 2010).

The main case site is the Kyocera Corporation (hereafter known as Kyocera). Kyocera is a manufacturing company with JPY 1,447 billion (USD 12 billion) in consolidated revenue for the year ending March 2014. Within Kyocera, there were 230 companies at the end of the fiscal year 2014. We have conducted in-depth and longitudinal field research from May 2004 to April 2008. We have used open and semi-structured interviews, archival data collection, and on-site observations at Kyocera, its consulting arm, which is called Kyocera Communication Systems (KCCS), and its client companies.

From the theoretical perspective, Kyocera was chosen as the main case site because of its MCS. Kyocera contends that its core values and responsibility accounting system are ‘a pair of wheels’ for its MCS, and that they make an inseparable team (Inamori, 2006). Their core values are called the Kyocera philosophy. The Kyocera philosophy is stated in documents such as credos, mission statements, and statements of purpose. The company’s responsibility accounting system is called the Amoeba Management System (AMS). The AMS provided an empirical basis for the notion of ‘mini profit centres’ in the 1990s (Adler & Hiromoto, 2012; Cooper, 1995). This emphasis by Kyocera on the role of core values and a responsibility accounting system is the theoretical rationale for the choice of the company as the main case site.

The composite case site

There are three types of research site involved in this case study: Kyocera, its consulting arm Kyocera Communication Systems (KCCS), and KCCS’s client companies. Kyocera is the mother company where the original AMS was created and developed.

KCCS originated as an offshoot of the management planning office and is now a subsidiary of Kyocera. The management planning office is in charge of designing, establishing, maintaining, and updating Kyocera's responsibility accounting system and also providing internal consultations. The CEO of KCCS at the time of our main field research between 2004 and 2008 was the former head of the management planning office. It was under his leadership that Kyocera's responsibility accounting system was systematically developed. Over time, Kyocera's responsibility accounting system was stylised and formalised as a distinctive set of management accounting practices. These stylised management accounting practices developed from experiences at Kyocera and are now known as the AMS. KCCS provided consulting services to implement the AMS into its client organisation, which consists in part of companies acquired by Kyocera, such as Kyocera Mita, and other independent companies, such as the SD Co. As part of this research, we conducted a series of interviews at these acquired subsidiaries and independent companies. The data collected at the companies were used to obtain insights to develop this paper. Events at an independent company, the SD Co., which introduced the AMS in consultation with KCCS, were incorporated to describe the functioning of the AMS in this paper. The AMS had been used at the SD Co. for about four years when we conducted the interviews (personal communications, 9 June 2005; 18 January 2006). The interviews at the SD Co. were conducted to verify in a different setting what we observed about the functioning of the AMS at Kyocera. The information that we obtained at the SD Co. more than confirmed our findings at Kyocera. The use of such composite case materials improves the validity of our findings by demonstrating that they hold true in varying contexts.

Data analysis

The details of the interviews and observations are given in Table 1. We had extensive access to the internal documents of all the companies involved in this research, except the client companies of KCCS. With the client companies, we obtained iterative opportunities to discuss with them our understanding of their AMS in action at feedback meetings.

Table 1 will be around here

The interviews typically lasted for about two hours. All interviews were recorded and later transcribed. Memos were taken at the interview site. Interviews were designed so as to triangulate the evidence from at least three different perspectives: senior managers, lower level managers, and consultants. We interviewed non-managers and part-time workers when possible to augment the validity of our findings. Historical analysis of internal documents, such as notices from the control division of Kyocera and internal memoranda which date back to the 1960s, formed the background contextual understanding of the socio-historical development of the AMS.

The collected field data were documented and filed. We conducted the data analysis in the following manner. Drawing upon the concepts of the LOC framework, the data were first analysed in order to find various types of perceived dynamic tension and their effects at the lower management level. The forces which generated the dynamic tensions were then traced and linked to various dimensions of the MCS. Following this, relationships between these dimensions of the MCS and the core values were scrutinised. Once this deductive process was completed, reverse inductive processes followed to see if the deduced relationships held in opposite directions and matched the data (Ahrens & Dent, 1998). These inductive and deductive processes were iterated to derive patterns of generating dynamic tensions, their effects, and their relations with the core values.

The findings and their implications were provided as formal feedback to the interviewees in subsequent interviews and at various types of official meeting hosted by KCCS. One of the purposes of providing feedback was to ensure that our understanding of the AMS was authentic from the perspective of those who actually practice it (Lukka & Modell, 2010). The author had an opportunity to make a speech about the main findings in this paper before an audience of several hundred who were managers of Kyocera, KCCS consultants, and managers of KCCS clients who use the AMS (3 October, 2009). Our findings were reported during the speech and emphasised competing elements within the core values and their effects through management accounting practices. The findings were found to be conceptually novel to the audience, who overwhelmingly appreciated them as authentic and reported about them in one of KCCS's internal magazines (Kawamura, 2009, p. 28). We would like to add here that many details were provided in the discussion period after the speech.

Reflexive interviewees

As is shown above, this longitudinal case study involved multi-reflexive processes in the sense that we were engaged in dialogue with practitioners who are forced to be reflexive because of the situated practices they engage with. For example, most senior consulting practitioners at Kyocera have work experience at the management planning office of the company. The management planning office is where the AMS was originally developed, applied, and continuously modified over time. The AMS and its associated knowledge, both tacit and explicit, were transferred to KCCS. The AMS evolved further as it was deployed in different contexts and settings, such as non-profit organisations.

The core competence of KCCS as a consulting company is its ability to design, implement, and operationalise the AMS. In particular, KCCS seeks to improve its clients' practical ability to utilise the AMS. An executive of KCCS commented that:

We think that our business is not only to bring the box (that is, the AMS) to the clients, but to help them learn how to use it in practice, (and learn) the necessary attitudes. We reckon that people in their place and their mindset are decisive. ...

Ordinary consulting companies try to establish the management system once and for all. Our business starts after that. We work with our clients to get the most out of the system. (Personal communication, 26 November 2007)

This emphasis on the practicality of the AMS was repeatedly observed at both Kyocera and KCCS.

The AMS is also instituted at KCCS. However, there are several noticeable differences between a manufacturing company, that is, Kyocera, and a consulting company, that is, KCCS. The differences between them have resulted in variations in the design of the AMS and the way in which it is used in practice.

Soon after KCCS was separated from Kyocera, the differences between them became apparent. KCCS consultants who used to be management accountants at Kyocera, started to recognise explicitly taken-for-granted properties of the AMS which they had not been aware of before. Drastic changes in their role, that is, from internal management accountants to consultants who provide services to external clients, made the once taken-for-granted implicit properties become part of the explicit knowledge of the professional consultants at KCCS.

The prior history and the current nature of the operational practices of the consultants have resulted in an accumulation of multi-layered reflexivity at KCCS, where the uses of

AMS in practice and for consulting are intertwined. The AMS is what the consultants utilise at KCCS, while it is also what they provide to the clients. A number of consultants explained to us how they now feel that they are more compelled to appreciate reflexively the nature of what they sell, that is, the AMS, than when they were members of the management planning office at Kyocera. Now they have to explain the virtues and potential pitfalls of the AMS to clients who do not share the same historical background with Kyocera and KCCS. Such interviewees knew how to tell us what they do very well. It seems to us as researchers that the consultants share their vocabularies and that the way in which the AMS is explained is highly standardised. In other words, our interviewees are highly sophisticated reflexive practitioners (Schön, 1984).

An obvious danger associated with accessing a field from the perspective of, and being guided by, members of a consulting arm is that our perceptions are inevitably influenced by the cognitive framework of the consultants. There is also a danger that we can be influenced by the values which favour consulting activities and thus develop a biased view which is sympathetic to these. We were aware of these potential dangers and took a cautious, reflexive approach in order to validate and interpret the findings. A critical view was the most important reflexive tool to deal with these dangers. The LOC framework is another reflexive tool to mitigate these dangers. In this regard, we treated the LOC framework cautiously so as not to use it as a Procrustean bed but as a disciplinary guideline to reflect upon the empirical data as described in the data analysis section.

There were some advantages to, and opportunities provided by, intense interaction with the consulting staff at KCCS. Such staff had a powerful wealth of reflexive knowledge about the practices employed at KCCS and were eager not only to share their knowledge but also to listen to our understanding of it (Cooper & Morgan, 2008; Kaplan, 1986).

Nevertheless, the aim of this research is neither to report the practical knowledge of the

KCCS consultants, nor to be merely advocates of the services provided by KCCS. On the contrary, we aim to use their practical knowledge to provide theoretical generalisations and to add new insights which were not previously held by the practitioners. Thus, the value of this research can be partly evaluated by the extent to which this paper provides new insights about the AMS which the consulting practitioners are not currently aware of. The aforementioned episode about the speech made in front of practitioners shows that our critical approach has been reasonably successful with regard to the authentic aspects of the research's validity (Lukka & Modell, 2010).

The core values

Core values form the essential part of a belief system (Simons, 1995). As has been argued, value-laden statements in the core values of the company can be both inspirational (belief system) and constraining (boundary system). However, before investigating the functioning of the core values as a belief system and boundary system, the history and content of core values, and the way in which they are disseminated at Kyocera, are explained in this section.

According to the founder of Kyocera, core values are the ethical base upon which management decisions and activities should take place (Inamori, 2006, 2014). The notion of core values is usually referred to as the Kyocera philosophy and is declared in documents such as credos, mission statements, statements of management principles, and statements of purpose. The Kyocera philosophy is also presented in edited versions in a pocketbook, brochures, and posters. The pocketbook is given to all employees so that they always carry it with them while working. Speeches of the company's founder, Inamori, dialogues between top managers, and discussions of the rank and file about the Kyocera philosophy are recorded in various formats and distributed within the company. Some of the books, audio tapes, and DVDs are sold outside the company as well.

The Kyocera philosophy is often referred to in formal meetings and informal conversations regardless of rank and order. Inscriptions of core values are ubiquitous at the case company. We saw them along the corridors of factory floors, in the meeting rooms at headquarters, in branch offices, on banners, on bulletin boards, and so forth. Although in Western corporations, formal belief systems are a relatively recent organisational development (Bartlett & Ghoshal, 1993; Marginson, 2002; Simons, 1995), a trend which is explained by the growing complexity and diversity of companies, the core of the Kyocera philosophy was established in 1960 and has proliferated since then (Inamori, 2006).²

The origin of the core values

The core of the Kyocera philosophy emanated from an industrial dispute which took place in the earliest days of the company³. The company's founder, Inamori, frequently recollects the crisis moment where there was a lack of mutual philosophical understanding between managers and employees. Kyocera was founded in 1959 and in 1960 the company experienced unexpected industrial turmoil for an infant venture: the workers were about to go on strike. It was a period of furious industrial dispute in Japan and there were a number of stark confrontations between organised labour and management. The so-called Japanese management style, which is characterised by an in-house union and a cooperative relationship between employees and managers, would be formed from the ashes of this period.

The newly born Kyocera struggled with the social upheaval of the time. The confrontation was between young managers and younger workers. Inamori was in his late 20s and had left another company with seven colleagues in order to start a new venture. Inamori (2006, p. 22) stated that they shared the founder's dream to show his technology to the world

² For the historical development of Kyocera's core values, see Ushio (2012) and Ushio & Kazusa (2013).

³ The historical description of the origin of the core values is mainly based on Inamori (2006) but is supported by documents such as the company history book (Kyocera, 1999). The description intends to help readers understand how core values are communicated at Kyocera.

through this company and were prepared to sacrifice themselves for this dream. The seven colleagues recruited 21 teenagers who had just graduated from high school. The new recruits did not share the ambition of the seven founding members. They were more concerned about labour rights and their own personal welfare. They demanded an annual wage increase and urged managers to guarantee lifelong job security. For the managers of the company, which was still struggling to maintain operational cash flow, the demands of the new workers sounded incomprehensible at first.

The negotiation between managers and employees lasted ‘for three days and three nights’, according to the founder (Inamori, 2006). He invited the teenage workers to his home to stay overnight and discuss the dispute. They reached a point of agreement when the founder promised to keep the company alive; otherwise, he would sacrifice his own life. By making such a promise, the founder made it clear that he was committing himself to the security of the employees’ jobs (Inamori, 2006, pp. 24-26). This was not a mere economic compromise but a value statement which dissolved the confrontation and resembled the birth-myth of a nation. This heroic and romantic statement remains the foundation of the core values of Kyocera.

The corporate rationale and principles of management

It is well recorded in internal documents such as the company history book, which was written to celebrate Kyocera’s fortieth anniversary, that the initial core values were drastically altered after the industrial disputes in 1960 (Kyocera, 1999). The new core values, which in essence remain today, were documented in credos which appeared in internal documents such as the employee newspaper and the Kyocera philosophy pocketbook. Inamori has said that the confrontation with employees was a starting point for reformulating the primary core value, which he called the ‘corporate rationale’. He recalls that:

There is something more important than my own dream [that is, to introduce his technology to the world]. It is more important to protect/guard the lives and well-being of employees and their families. It is my destiny to strive for their well-being' (Inamori, 2006, p. 26).

Further, 'The firm has been modelled on the traditional style of the "family", where grandparents, parents, and their kids live together and work hard for the entire family' (Inamori, 2006, p. 53).

This is the way in which the primary core value was established. The 'corporate rationale' states: 'Our company provides opportunities for the material and intellectual growth of all our employees, and through our joint effort, contributes to the advancement of society and humankind' (Inamori, 2006, p. 26). Soon after the confrontation and eventual reconciliation, what members of Kyocera call the '12 principles of management' were formally established. The 12 principles of management are as follows:

The 12 principles of management⁴

1. You need to understand the significance of the business and have a clear goal for the business
2. You need to set a concrete target
3. You should hold a strong desire in your mind
4. You need to make more effort than anybody else (self-respect comes when you stand on your own feet)
5. Maximise sales, and minimise costs

⁴ The original principles are written in Japanese. We translated them into English in this paper.

6. Pricing is management
7. Strong will delivers management results
8. Have an ardent fighting spirit
9. Move ahead with courage
10. Be creative
11. Be honest with compassion
12. Be cheerful and positive with dreams, hopes, and a good heart

The 12 principles of management provide basic values and attitudes which members of Kyocera should embrace, while the corporate rationale states the reasons for the existence of Kyocera. The corporate rationale and the 12 principles of management are the foundation of the core values of Kyocera. Since their institution, the company has emphasised that the core values should be embraced by all members of the organisation, from senior managers to shop-floor workers.

The Kyocera philosophy is the core of the belief system at the Kyocera Corporation. According to Simons (1995), belief systems exert positive (Yang) forces, representing sun, warmth and light. They motivate, reward, guide and promote learning. At first glance, the Kyocera philosophy seems to be only on the positive side of MCS. However, when the way in which they function is scrutinised, the core values are seen to exert both positive and negative forces. In other words, the core values function as a belief system and a boundary system simultaneously.

Disseminating the core values at Kyocera

Kyocera's core values largely originated with its charismatic founder (Cooper, 1994, p. 19; Miya, 2003, pp. 143-144), although they emerged through the interactions between the

founder and his subordinates, with the original socio-historical context being triggered by an industrial dispute. The company has been keen to institute a core values education programme called the 'philosophy education programme' (PEP), domestically and internationally in recent years since the founder's retirement. PEP is managed centrally by the Management Research Institute at the company's former head office site.

The participants in the programme include top management as well as newly employed workers just out of college. In the fiscal year 2008 (the year ending in March 2009), a total of 95,255 employees (44,232 domestic, and 51,023 overseas) of Kyocera group companies attended the PEP (Kyocera, 2009, p. 42). On average, each member of the Kyocera group spends approximately three days at the PEP each year. The programme includes seminars specifically designed for different ranks, that is, for senior general managers, department managers, sectional managers, and other lower ranked workers.

In the PEP, participants are typically involved in case-based studies. In these, participants are required to make management decisions which have to be approved by other participants. The basis of their decisions should be the Kyocera philosophy. The legitimacy of the decisions proposed by the participants is discussed in groups. The programme is intensive and discussions often continue after the formal programme over meals and drinks. The PEP has also been conducted overseas since 2003. Table 2 shows an overview of the educational programme at the company.

Table 2 will be around here

The essence of the Kyocera philosophy is concisely summarised in 'The Kyocera Philosophy Pocketbook'. The first edition of the pocketbook was published in 1967, eight years after Kyocera's establishment. Since the publication of the first edition, every worker

at Kyocera has been given the pocketbook on his or her first day at the company. At daily morning meetings, the workers recite passages of the pocketbook. It is routine practice at Kyocera for all employees to memorise the main elements of the Kyocera philosophy and it is an established norm for them to refer to when carrying out their activities. Jointly, the Kyocera philosophy, the educational programme, and other related routines and procedures constitute the belief system at Kyocera.

The responsibility accounting system

Responsibility accounting system are constituted with a set of rules, routines, and procedures which are used to determine, distribute and evaluate the financial responsibilities of responsibility centres. The corporate rationale and 12 principles at Kyocera affect the way in which the responsibility accounting system is designed and used. In this section, we will examine the way in which the core values are reflected and embedded in the design of the responsibility accounting system, and how the core values affect the way in which the responsibility accounting system is actually deployed.

Functional division of responsibility centres

The AMS, the responsibility accounting system originally developed at Kyocera, is characterised by the way in which Kyocera is divided into small responsibility centre units which are called amoebas, and the way in which performance measures for each amoeba are formally designed.⁵ The AMS directly affects the amoebas, each one of which is assigned profit responsibility and endowed with discretionary power to draw up annual and monthly

⁵ The performance measures of the amoebas have evolved over time. For example, a performance measure which was introduced to compare productivity of factories in the 1960s has been modified to be used as a performance measure for amoebas. During the course of its evolution, the original productivity indicator, which was technically understood, was attached with value-laden significance derived from the core values. See Ushio (2012) for the historical evolution of the performance measures at Kyocera.

plans, which are then executed. In this sense, each amoeba is said to be autonomous. The annual and monthly targets are jointly determined with superiors. In this way, the basis of the targets is anchored to the so-called annual master plan of the company. The size of an amoeba varies extensively, although, the typical size of an amoeba is about 10–15 members. There were approximately 3,000 amoebas at Kyocera in 2006 (Inamori, 2006, p. 105).

In principle, each amoeba is functionally separate from the others. For example, manufacturing functions and sales functions are divided into different amoebas. In a manufacturing amoeba, there can be amoebas specialising in welding, moulding, cutting, finishing, etc. Because of the functional division of responsibility centres, their performances are highly interdependent (Kazusa & Sawabe, 2006). Back office sections may also form functionally divided amoebas with internal transfer pricing systems. For example, personnel, law, accounting, and planning are divided into autonomous amoebas in the sense explained above. Typically, there are four types of functionally differentiated amoeba, namely manufacturing, sales, research and development, and general administration (KCCS, 2004, p. 34). For the sake of simplicity, we concentrate our explanations below on the first two types of amoeba, manufacturing and sales.

Diagnostic use of the responsibility accounting system

The responsibility accounting system at Kyocera is used as a diagnostic control system. The financial performances of the prior month are reported at monthly performance reporting meetings at each responsibility centre, the smallest ones of which are amoebas. The amoeba leaders report their results and compare them with the monthly targets and the annual targets. Senior managers and colleagues ask if there are any significant deviations from the annual plan. When asked, amoeba leaders are expected to provide appropriate reasons why a target was achieved and what remedies they are taking to reach a target when it is not achieved. If

they are not able to provide appropriate replies at the meeting, then, typically, they are asked to prepare better for the next meeting.

The monthly performance reporting meetings are held at factory/branch, divisional, company, and group-wide levels. Accordingly, the participants at the meetings vary from the lowest level amoeba leaders for the factory/branch meetings, to the presidents of group companies who participate in the group-wide meetings. Like a matrioshka doll in Russia, the performance reporting meetings at the various levels have identical structures in terms of what is reported and how the reports are discussed.

The responsibility accounting system at Kyocera is used diagnostically to monitor the efficiency and effectiveness of the overall operation. The responsibility accounting system measures the outputs of the smallest unit of the responsibility centres, that is, the amoebas, compares actual performances with the pre-set targets, which are set by themselves jointly with their immediate superiors as will be explained in detail later, and corrects deviations from the predetermined plan.

Daily practices of the responsibility accounting system

Within this context of the diagnostic use of the responsibility accounting system, daily morning meetings play an important role in communication among and within amoebas. Typically, three types of short meeting (around 5–10 minutes each) are held in each office or factory: manager, sectional, and amoeba meetings.

Our observations at the Kokubu Factory, one of Kyocera's largest factories in Japan with about 3000 full-time employees and 1000 part-time workers, show that the morning starts, just like any other day, with manager meetings, where divisional managers and their subordinates (sectional managers) meet at quarter to eight in the morning. These are quickly followed by sectional meetings where sectional leaders meet with amoeba leaders. After

these, each amoeba leader rushes back to his own workplace to have a meeting with the other members in his/her amoeba. At each meeting, daily performance targets are reconfirmed and the results of the previous day are reported. Management issues, such as the delay of a certain part, are reported and discussed if necessary.

For example, at a sectional meeting that we attended, a leader of a manufacturing-amoeba was cautioned by his superior about a shipment delay and criticised for not giving enough attention to the schedule and quantity of the order (observation, 8 February 2008).

At amoeba meetings, a member of the amoeba reads passages from the Kyocera philosophy pocketbook (observation, 21 September 2004, 8 February 2008). Details about how these meetings are run are delegated to amoeba leaders, while amoeba leaders are encouraged to let their members engage with core value-related activities at morning meetings.

Each amoeba is given authority and responsibility to set and execute its target and plan as aforementioned. Assuming authority and bearing responsibility are not easy tasks for amoeba leaders. They have to devise their own plans and have them approved by amoeba members as well as their superiors.

Core values in the design and use of a responsibility

accounting system

Although the responsibility accounting system is used in a diagnostic manner at Kyocera, when we look closely at the practices of the responsibility accounting system, we see that it is used as a belief system and a boundary system within which the core values of the organisation are communicated and also function as an interactive control system.

Accounting numbers are reported and checked diagnostically, but these numbers are set,

targeted, discussed, and achieved with value-laden meanings attached and communicate strategy as a perspective interactively. The managers and employees talk about the meanings behind the numbers and consider the values behind the creation of the numbers in the responsibility accounting system. When we scrutinise the way in which the core values are reflected and embedded in the responsibility accounting system, it becomes clear that competing values, within the core values, exert both positive (as a belief system) and negative (as a boundary system) forces in different directions.

Designing performance measures of family members

The design of the performance measures against which the responsibility of each amoeba is accounted for reflects core values. There are two key performance measures at Kyocera: what we call ‘workers’ profit’ (WP) and ‘hourly workers’ profit’ (HWP).

WP is defined as gross value added minus capital costs and interest payments. This is akin to the surplus attributed to workers. The definition of workers here includes managers and employees. The claims by capital providers are not appropriated from the surplus but treated as costs in the calculation structure of the performance measures.

The basic idea of WP is shown in Figure 1. The whole circle represents the gross value added. From the gross value added, capital costs and interest payments are subtracted in order to calculate WP. In other words, WP is the sum of economic value added, management compensation, and labour expenditure, which are highlighted in black.

Figure 1 will be around here

The way in which the performance measure WP is designed excludes labour expenditure as costs. This is interpreted as a reflection of a particular part of the core values,

which emphasises the welfare and well-being of the organisation's members. The corporate rationale which emphasises such welfare and well-being, as well as principle no. 11, 'Be honest with compassion', and no. 12, 'Be cheerful and positive with dreams, hopes, and a good heart', encourage amoeba leaders to behave as if they were heads of families. We term this underlying belief 'familism'.⁶

Regarding the calculation structure of WP, especially the way in which labour expenditure is treated as a part of WP, a consultant at KCCS commented as follows:

Amoeba management aims to bring out and maximise employees' potential, rather than exploit them by cutting their salaries to improve the profit of the firm. ... Although we have the words 'maximising sales, and minimising costs' in our philosophy, labour expenditure is not included in [the definition of] 'costs'. It means that labour expenditure is not something that should be minimised. [On the contrary,] we would like to increase the labour expenditure by improving sales turnover. We don't have the mindset that we should cut labour expenditure. (Personal communication, 27 July 2004)

Family kinship, or 'familism' as we call it here, is a key feature of the core values at Kyocera. We observe that it is a shared recognition among people at Kyocera that 'familism' is reflected in the way that the performance measure is formulated. To provide family members with an opportunity to work for their material and intellectual growth, labour expenditure is not booked as 'costs' in the calculation of WP.

⁶ Basic competing values, such as familism, used to describe the case and the analysis are deduced by the author through the systematic analysis of the data explained in the method section. They are not exclusive nor comprehensive. There may be alternative ways to deduce different sets of basic competing values. However, the authenticity of the basic competing values in the core values are confirmed in the feedback meetings with interviewees.

Consistent with the corporate rationale, it is believed within Kyocera that employees should not be sacrificed for the sake of economic profit. The core values here set a boundary for the organisational members and function as a boundary system. This belief in 'familism' is often transmitted to other companies when the AMS is introduced. One consultant commented as follows:

When the AMS is introduced to a company, *the managers do not think of any layoffs as among their options*. Instead of layoffs, they try to explore the ways in which they can make maximum use of what they have [as members of the company]. ... Workers seem to feel a kind of job security when they actually see the WP in their performance sheet where labour expenditure is not included in the column of 'costs'. (Personal communication, 26 November 2007, emphasis added by the author)

The constraining effects of familism are also inspirational here. Familism draws a boundary which inhibits managers from laying off workers. In this sense, familism functions as a boundary system. However, partly because of this constraint, managers are encouraged to explore and experiment with new ideas in this kind of situation. This implies that familism also functions as a belief system. Thus, familism is inspirational because it is constraining. The design of the performance measures and the symbolic significance attached to them constitutes a communication device with which familism, a part of the core values is disseminated.

The other performance measure is HWP, which is defined as WP divided by total labour hours devoted to earn an amoeba's WP. HWP makes it possible to compare performance among amoebas with different sizes. WP and HWP are the basic performance

measures used in the responsibility accounting system of the AMS. The combined effects of these two key performance measures will be discussed in the next section.

Aiming high: setting targets

Amoeba leaders are endowed with the authority and responsibility to draw up and execute their own plans, both annual and monthly, in the responsibility accounting system.

Accordingly, amoeba leaders set their target numbers, the WP and HWP of each amoeba, jointly with their superiors. Annual targets are set as a starting point for the annual master plan. The annual master plan is divided into monthly plans where monthly targets are set. Monthly plans are updated monthly, while the annual master plan is left unchanged for the year.

The initiative of setting targets is taken by the amoeba leaders; nevertheless, each target should be accepted by the amoeba members and be approved by their superiors. Amoeba leaders are expected to persuade their members and superiors of the relevance of the target levels and the validity of their plans. The divisional manager at KCCS commented as follows:

When the superior has an expectation of, say, 3,600 yen (per hour for the target in the next month) for his/her subordinate amoeba, he/she asks the amoeba leader to revise the proposal (to, say, 3,500 yen/h for the target). However, he/she never gives specific numbers to the leader. They discuss the proposed plan repeatedly. After the discussion, they may come to a conclusion that the original proposal is appropriate, or that a higher target is actually possible. ... [But the point is] our philosophy requires us to 'set high targets'. You shouldn't set an easy target. (Personal communication, 27 July 2004)

One of the preconditions for a supervisor to be convinced is that the plan has a high stretch target. A high stretch target is a manifestation of amoeba leaders' 'strong desire'. This is reflected in management principle no. 3, 'You should hold a strong desire in your mind'. 'Strong desires' is a concept which is referred to in these instances when the appropriateness of the target level is discussed. The practice of a responsibility accounting system in this situation functions as a belief system with which amoeba leaders are inspired to set stretch targets. A sectional leader of a manufacturing division who supervises several amoebas commented about this in an interview:

Planning is everything. It is extremely important for us. We cannot make better results than what we planned. We set the target as high as possible and cling to it after that.
(Personal communication, 21 September 2004)

On another occasion, the same sectional leader asserted that 'We say to them again and again: it [setting a target] is "committing yourself" to the number, rather than just "planning" (personal communication, 27 July 2004). As shown by these comments, the importance of setting a high target with 'a strong desire' is shared among amoeba leaders and other workers. This shared understanding about the value of setting such a high target in this way reflects a certain aspect of the core values, and is reinforced in the monthly updating of targets where it is communicated and enacted.

The aspect of the core values which generates forces to drive organisational members to challenge the status quo is called 'romanticism' here. No. 3 of the principles for management urges that 'You should hold a strong desire in your mind'; no. 7 says that 'Strong will delivers management results'; no. 8 demands that you 'Have an ardent fighting

spirit'; no. 9 requires you to 'Move ahead with courage'; and no. 12 encourages you to 'Be cheerful and positive with dreams, hopes, and a good heart'. In practice, these principles urge amoeba leaders and their members to have a certain distinctive attitude which could be labelled 'romantic' in the sense that it encourages them to challenge the status quo. The process of changing oneself and others is valued more than accepting things as they are and being content with oneself. With these romantic values, routines at amoebas tend to be biased towards an idealistic future. We term the underlying belief behind these principles 'romanticism'.

Be realistic: devising feasible plans

Amoeba leaders must draw up their own budgetary plans to attain the targets that they set themselves. The plans should be convincing for superiors and other members of the amoeba. This is also where the core values come in.

Planning is expected to be highly detailed. Amoeba leaders are expected to persuade their superiors of the feasibility of their plans. One of the preconditions for a supervisor to be convinced is that the plan is based upon supporting data which shows that the plan's feasibility is well thought out. Further, financial numbers in the plan must be feasible ones based upon appropriate pricing expectations. For example, monthly sales figures should be disaggregated into specific items and categories for which there are convincing data, both qualitative and quantitative, to show the reality and expectation behind the sales target. The divisional manager at KCCS commented, 'You need to show what actions are to be taken to accomplish this amount [of the target] and how those actions are ensured to be taken [when you devise a plan] (personal communication, 19 August 2004).

An underlying aspect of the core values is what we call 'realism'. In Kyocera philosophy, it is stated that you should 'devote your attention to the reality in the field' and

'respect empirical rules' (Inamori, 2014, pp. 543-552). These statements declare the fundamental belief that reality in the field is the basis for management. Apparently, this realism at the planning stage of the responsibility accounting system seems to function as a boundary system. 'The starting point of manufacturing is in the manufacturing field, the basis for sales is in the interface with clients. If any problem arises, the first thing you should do is get back to the site' (Inamori, 2014, p. 543). When this realism is linked to the principles such as no. 1, 'One needs to clarify goals for the business' and no. 2, 'Set concrete targets', they can be seen as the founding keystones of 'realism', and are the management principles which direct the business reality on which the amoebas' function should be explicitly specified.

Realism for amoeba leaders means that their plans should be highly detailed with convincing data which demonstrates the plans' feasibility. Neither an aggressive target alone nor a detailed feasible plan alone is enough. An aggressive target, a reflection of romanticism, accompanied by a feasible detailed plan, a reflection of realism, is necessary for the target and plan to be accepted by amoeba members and approved by superiors.

Respect the market: interacting with each other

Amoebas are organised in a functional way so that they transact with each other. In order to plan transactions, amoebas communicate and negotiate the conditions of transactions. An aspect of the core values, which we call 'marketism' is present in the amoeba interactions. The underlying belief of management principle no. 5, 'Maximise sales and minimise costs', along with no. 6, 'Pricing is management', is that it is the market which sets the basis for any transactions (Inamori, 2006, pp. 226-227, 2014, pp. 461-462). Marketism refers to the belief that the prices determined in the market set the standards for managerial decisions while at the same time market-like competition should be respected. Marketism affects the way in

which amoebas interact with each other. A divisional manager at KCCS commented about the importance of these principles as follows:

Each amoeba (including those that transact internally within the company only) knows the market price. It is eager to obtain the latest market information. So (when its counterpart amoebas offer internal transaction prices which are not based on the latest market price), it raises hell. (Personal communication, 19 August 2004)

It is not only the sales amoebas which take market information seriously; so do the manufacturing and other amoebas. Sales amoebas interact directly with the external market, so market information is an essential element of their activities. Manufacturing amoebas usually do not have immediate interactions with the market; however, they eagerly seek the latest market information in the AMS because market prices form the basis for communication and negotiations among amoebas to the extent that sensitivity to market prices is a key requisite for amoeba leaders to survive. Repeatedly, amoebas are explicitly made aware of this importance by transacting parties and by superiors. In this way, responsibility accounting system is used as an interactive control system. Each time an amoeba devises an annual or monthly plan, the aspect of the core values known as 'marketism' is also explicitly communicated and encourages them to explore market conditions, thus also functioning as a belief system.

The family: devising plans for the amoeba members

On the same occasion when he commented about the importance of marketism, a senior manager told us that '(in drawing up their plans) amoeba leaders ponder how they can support and maintain their subordinates' lives' (personal communication, 19 August 2004).

An amoeba leader whose amoeba has no more than ten members commented that:

My role (as an amoeba leader) is to make sure that all members of the amoeba understand what they should do to attain a goal, and to take the lead in the process. ... It may sound a little strange but I often listen to the private affairs of my members in various ways. Well, I think I have to be able to do it. Really, it is not merely business. I take it personally. (Personal communication, 21 September 2004)

This suggests that the planning stage of the responsibility accounting system is used as an interactive control system, while at the same time it provides a situation where market-oriented values, that is, marketism, and family-oriented values, that is, familism, are communicated among members of amoeba groups.

Marketism may seem to be connected with negative forces (a boundary system), while familism with positive forces (a belief system), whether they exert negative or positive forces relative to the relationships to each other and to the situation in which they are enacted. They are not inherently negative or positive. Nevertheless, they exert forces in opposing directions, which in turn generate dynamic tensions.

Let's play the game: converting dull factory life into a lively game field

Along with corporate rationale and management principles, the performance measures, WP and HWP, in the responsibility accounting system converts dull and mundane worker life into exciting games within which amoebas compete against each other. In addition, the size of each amoeba is kept as small as possible so that as many workers as possible are given opportunities to act as leaders in the game. The duties of such leaders are kept manageable

for most of them because of the small size of the amoebas. This usually results in limiting the scope of attention required to manage the amoebas.

A senior executive of a group company commented, 'It is not something enjoyable to work in a factory. Amoeba management brings a vibrant atmosphere into the dull workplace by giving personal goals to every worker' (personal communication, 4 April 2008). The responsibility accounting system, in which the meaning of the game is communicated and the points of the game are counted, creates the conditions for such a conversion to take place. The way in which the responsibility accounting system is used to create market competition such as a game situation is interpreted as a reflection of marketism in the core values.

Amoebas usually work in a highly interdependent manner because of the way in which organisational structure is functionally divided. Nevertheless they compete against each other for accounting numbers, that is, WP and HWP. Both WP and HWP are benchmarked against pre-set targets. At the same time, information about the extent to which these targets have been attained in percentage terms are internally disclosed among rival amoebas. Thus, the AMS combines absolute and relative performance evaluations. The performance of each amoeba is reported on a daily basis to all amoeba leaders. They usually share the performance results on a daily basis with other members of their amoebas. At the same time, the performance results of amoebas are readily available to the leaders of other amoebas.

During monthly review meetings, amoeba leaders get together to report their performances, both WP and HWP, the extent to which they attained the targets, and the forecasted performances for the next month. Both feedback and feedforward types of control are practised at the AMS. Such a management style, with all performance results shared among workers, is called 'management in a glass office' (Inamori, 2006, pp. 165-166).

Performance measures convert otherwise mechanistic worker life into a lively competition. The practice of the responsibility accounting system is inspirational (a belief system). The competitive atmosphere resembles that of sport. Indeed, the same attitude towards competition is observed when amoebas compete against each other at the annual athletic festivals held at the factories. The former chairman of Kyocera Kensuke Ito commented, 'Performance in the workplace correlates with the results in an athletic festival. If you cannot cooperate in an athletic festival, you cannot work with your colleagues in business. Teamwork is very much related to performance' (personal communication, 27 September 2005).

The game is more than a game for amoebas, though. Performance measures create the hard reality in which amoebas survive. As an 'independent company', an amoeba is required to achieve an HWP which is higher than the average hourly salary of its members. Thus, it is a minimum requirement for leaders to achieve an HWP which is higher than this hurdle. Failures to achieve this minimum requirement inevitably result first in the replacement of the amoeba leaders, and second in the absorption of the underperforming amoeba by other amoebas if failure continues under new leaders. An administrative manager of Kyocera commented that:

We have the maxim 'make your own bread' in our philosophy. In our company, each amoeba struggles to meet this maxim as a minimum mission. Under amoeba management, each amoeba is regarded as an independent company. Realising your autonomy is considered important. You need to do your best to harvest enough fruit to feed yourself. In this way, we believe that each member is able to bring out his/her potential in reality. (Personal communication, 25 October 2004)

It is clearly seen in this comment that the gamification of the factory floor reflects marketism in the core values of the company. The game-like situation which resembles market competition is communicated and understood in the language of the core values at Kyocera. Marketism is inspirational in the sense that it brings a sport-like lively atmosphere to dull factory life, while it is constraining in the sense that accounting numbers determine the fate of amoebas.

We have sketched out how the core values are communicated and embodied in practice in a responsibility accounting system which is used as a diagnostic control system, a interactive control system, a belief system, and a boundary system. In the following sections, we introduce episodes from our fieldwork which can be used to establish how, and what kind of, dynamic tensions are generated in the practice of the responsibility accounting system, when they function as diagnostic, interactive, belief, and boundary systems.

Dynamic tensions generated by the responsibility accounting system

Dynamic tensions are generated and managed by MCS when they exert opposing forces (Simons, 1995). We analyse the roles of MCS in generating and managing dynamic tensions by focusing on the way in which competing elements within the core values jointly mould specific shapes to inherent managerial tensions, inherent tensions. We also analyse the way in which these inherent tensions are transformed by MCS into dynamic tensions which are perceived by the lower-level managers.

Inherent tensions between familism and marketism

There are inherent tensions between familism and marketism within the core values of Kyocera. As we have seen in prior sections, familism is reflected in the calculation structure of the performance measures, WP and HWP, while marketism is reflected in the system of accountability which creates a competitive environment for amoebas to survive in. Thus the abstract philosophical beliefs are reflected and communicated in the design and the use of the responsibility accounting system. Further, the inherent tensions are transformed into dynamic tensions when they are reflected in MCS that generates opposing forces in practice.

For amoeba leaders, familism means that they should treat their members as if they were family; on the other hand, marketism means that amoeba leaders should achieve improved performance in terms of performance measures, that is, WP and HWP, and compete against each other. Ironically, as an amoeba becomes more efficient in physical terms, the inherent tensions grow into actual challenges which amoeba leaders must confront. For example, when an amoeba becomes more efficient, fewer worker hours are needed to carry out the same quantity of tasks. If amoeba leaders could subtract idle time from total labour hours when calculating HWP, improved efficiency would result in increased HWP. However, idle time is included in the total labour hours of HWP; thus, increasing efficiency is a necessary but not a sufficient condition to improve HWP.

In this situation, an amoeba leader can be tempted to lay off redundant members so that improved efficiency is reflected in the performance measures. This option is morally prohibited because of familism in the core values. Familism here sets a boundary for organisational members (boundary system). Consequently, increased efficiency can result in an abundance of labour without an improved HWP number. In this manner, inherent tensions between familism and marketism become perceived dynamic tensions between improving financial performance and maintaining group harmony.

Dynamic tensions originating from familism and marketism

When confronted with dynamic tensions, some amoeba leaders cope creatively with what is an uncomfortable situation. Further, learning occurs when amoeba leaders strive to cope with dynamic tensions without having pre-determined guidelines to solve them.

One of the representative practices which is found at Kyocera is the temporary transfer of members between amoebas. Those amoebas with worker abundance negotiate with other amoebas to let them use their people temporarily. If the amoebas agree upon the temporary transfer between them, the amoeba that sends members to other amoebas obtains a higher HWP because of the reduced total labour hours, while the amoeba which receives the members obtains higher WP because of increased revenue. This is a win-win situation between two amoebas. A subsection leader commented to us that, 'it is often the case that we ask other amoebas to give or receive one or two members according to the shipment volume of the month. We do that almost every month. ... I think it is our, Kyocera's, strong point, having this kind of flexibility' (personal communication, 21 September 2004).

This process of allocating workers among the same level of amoebas is autonomously decided through negotiation between the two amoebas of the same rank without commands from senior managers.⁷ Thus, performance measures actually activate amoeba leaders' creativity at some localities.⁸ We call this flexible allocation of workers among amoebas 'autonomous worker allocation'.

Another type of practice which is observed in some amoebas is also related to interactions with other amoebas. As an amoeba improves its efficiency, increased capacity

⁷ When the misallocation of labour forces continues persistently, there will be a permanent transfer of workers from one amoeba to another, given that the HWP of the receiving amoeba is high enough. The decision about permanent transfer is made by a supervising manager.

⁸ Hiromoto (1988) describes the Japanese way of cost accounting by referring to the case of the Hitachi Corporation. He shows that at the Hitachi Corporation, medium and lower-level managers autonomously allocate staff among each other assisted by cost information. In our study, we expand his understanding by explicitly analysing the organic relationship between the accounting systems and the style of using them. In other words, we contend that accounting systems afford a particular way to use the systems.

becomes underutilised unless the business volume expands. Therefore, those amoebas which have successfully increased their efficiency exert pressure upon neighbouring amoebas in their value chains to increase business volume.

Typically, manufacturing amoebas with increased efficiency and temporal overcapacity put pressure on neighbouring manufacturing amoebas to keep up with them. Daily morning meetings provide an opportunity for efficient amoebas to exert their influence by reporting the current situation with concrete numbers to neighbouring amoebas and their superiors. In our observations at the Kokubu factory, the daily situation of each amoeba was reported to, and shared among, neighbouring amoebas at sectional meetings. We observed an amoeba which had a higher performance than it had planned at the beginning of the month report its updated prospects to other amoebas and ask its neighbouring amoebas in charge of the preceding process to speed up shipment (observation, 21 September 2004). As a consequence of this kind of interaction, the increased efficiency of a particular amoeba is propagated to other amoebas. We term this emerging practice 'stimulating neighbouring responsibility centres', and the immediate effects of the dynamic tensions the 'speed propagation' effect.

On other occasions, efficient amoebas cooperate with sales amoebas to get more business orders. They send their people, usually the amoeba leaders,⁹ to visit customers to help sales amoebas. In this case, they provide technical information to current or new customers in order to expand sales volume. Manufacturing amoeba members who work with sales amoebas can learn about existing and potential customers with face-to-face interactions on these occasions. Accordingly, with this kind of interaction between manufacturing and

⁹ At a feedback meeting, Kyocera and KCCS middle managers commented that it is usually the amoeba leader who is temporarily transferred to another amoeba (3 October 2009). The rationale is that leaders should take initiatives and assume irregular burdens, while routine tasks should be handled by other amoeba members. Because more than a few managers gave us this feedback on one occasion, we could not record precisely who they were.

sales amoebas, information about market opportunities is directly conveyed to the manufacturing amoeba. In situations such as these, the improved efficiency of an amoeba is propagated to neighbouring amoebas.

The observed behavioural pattern of sending members to other amoebas takes place without any specific planning *ex ante* or formal delegation of power to subordinates by superiors. This autonomous worker allocation is an immediate effect of the dynamic tension perceived at the lower management level. Some amoeba leaders show that they are capable of coping creatively with the dynamic tensions; others do not. Thus, dynamic tensions sometimes encourage creative responses at the level of amoebas. In our case company, the dynamic tensions between efficiency improvements, an effect of marketism, and faithfulness to familism are solved by autonomous worker allocation and by stimulating neighbouring responsibility centres.

Inherent tensions between romanticism and realism

Another source of dynamic tensions is the inherent tensions between romanticism and realism in the core values. Romanticism encourages workers to challenge the status quo, while realism exposes workers to the reality of the market and clients with financial numbers. Romanticism means that workers should not be content with what they are doing now, while realism reminds them of the current environment in which they are now located. With romanticism and realism juxtaposed, amoeba leaders confront the daunting task of setting aggressive targets whose feasibility has to be demonstrated by a detailed plan with supporting data. The target must be challenging but achievable (Merchant & Manzoni, 1989). In this context, there is a potential trade-off between target aggressiveness and feasibility. The more aggressive the targets are, the less feasible they are, *ceteris paribus*. The inherent conflict between romanticism and realism in the core values is shaped as a dilemma when a feasible

plan to attain a stretch target is difficult to draw up and supporting data for the plan is not readily available. The core values reflected in the responsibility accounting system generate opposing forces: one regarding the setting of stretch targets and the other regarding more feasible plans. Thus, the perceived dynamic tensions between setting a higher target and devising a detailed feasible plan are generated.

Dynamic tensions originating from romanticism and realism

The dynamic tensions generated by the responsibility accounting system confront amoeba leaders with the dilemmas between stretch targets and feasible plans. The dynamic tensions stimulate some amoeba leaders to cope creatively with the situation. An aggressive target encourages amoeba leaders to acknowledge that their own experience and knowledge are not sufficient for devising feasible plans to attain the target. Faced with this lack of experience and knowledge, some amoeba leaders explore various possibilities in order to devise an acceptable plan which will convince their superiors and subordinates. One way of exploring possibilities is to expand search activities for valuable information. Thus, beyond the sphere of daily interactions, amoeba leaders seek the experience and knowledge of others when they perceive the dynamic tensions.

This exploration consequently intensifies the horizontal and vertical communications within the company, while at the same time it can strengthen interactions with external parties. As a consequence, amoeba leaders visit not only neighbouring amoebas with whom they have daily interactions but also distant ones whom they have not necessarily met frequently. We term this effect of the dynamic tensions 'expanding the scope of communication'.

An amoeba leader at one of Kyocera's factories commented about the challenges which derived from the inherent tensions between romanticism and realism and which are

communicated through the responsibility accounting system: 'As an amoeba leader, I always aim at setting higher targets, it is a necessary quality for a person with responsibility. . . . We are constantly made accountable for goal attainment. It is tough.' Confronted with the challenge of devising a feasible plan to achieve stretch targets, he continued as follows:

As a mindset, we (manufacturing amoebas) are the ones who earn sales from clients. Sales amoebas are responsible for quality assurance. . . . In order to meet the needs of clients we seek relevant information from clients, sales amoebas, the business strategy division, technology development division, etc. (Personal communication, 21 October 2004)

A consultant of KCCS argued that when the AMS is introduced to a company, 'individual employees, well, take a problem as their own. I reckon, they start to see that the problem is within themselves. They ask themselves "what can I do or what should I do (to help solve the problem)?"'. He explained that giving appropriate advice during the planning stage was important: 'The higher the target is set, the closer one should scrutinise the details, calculating the costs of each part and the quantities' (personal communication, 9 June 2005). During the interview, he mentioned one of the companies which he helped with the implementation of the AMS, SD Co, as an example where the introduction of the AMS changed the behaviour of employees.

Accordingly, as part of this research we conducted a series of interviews at an independent company, the SD Co. The SD Co. introduced the AMS with the help of KCCS four years prior to our interviews. The SD Co. is a manufacturing company with, at the time of the interview, around 150 employees, including part-time workers, who are divided into about 30 amoebas (personal communication, 9 June 2005). The core values of the SD Co.

state that 'we respect the reality of the field' as well as 'aiming high', which resemble realism and romanticism in the core values of Kyocera (personal communication, 18 January 2006). The changes which the AMS have brought were told to us vividly in the interviews at the SD Co.

A manufacturing manager at the SD Co. commented that he had had more frequent communication with amoeba leaders at other divisions, specifically the sales division and the development division, after introducing the AMS:

Before the introduction of the AMS, workers in different divisions had rarely talked to each other. We kind of felt distance between them. With the AMS, we have no choice but to talk with each other. Now it is natural for us to communicate. We have no barriers between [different divisions of] workers. Everyone speaks his/her mind to each other, and it even sometimes results in quarrels. (Personal communication, 19 January 2006)

Thus, the dynamic tension between romanticism and realism expands the scope of interaction at SD Co. The manufacturing manager at the SD Co. also commented as follows:

The tendency is more prominent among young workers and part-timers. During the monthly planning phase, they make more contact with workers in other amoebas. ... When a potentially serious problem emerged, it was resolved by part-time workers with the help of workers in other amoebas, even before I realised that the problem had occurred. (Personal communication, 19 January 2006)

In this case, the dynamic tension between romanticism and realism made not only amoeba leaders but also amoeba members, including part-timers, participate proactively in drawing up plans. The dynamic tensions are actually perceived by the young and part-time workers as problems which they can solve.

Both at Kyocera, and KCCS's clients such as SD Co., performance results are analysed and discussed vigorously with supervisors and amoeba members. The focus of the discussions is usually on the reasons why the amoeba has or has not achieved the target, rather than on how well they achieved the target. While the reason behind the performance result is scrutinised, the performance is not mechanistically evaluated on a numerical basis. The reason why such a performance has resulted is more important than the performance result itself.

The consultant who helped the SD Co. explained that:

For example, the question is why there is a gap between the planned and the actual performance; it should not be only about the result; the essence is not to focus on the result, in the first place; instead, we must consider whether it's a bad plan, or bad planning. ... It is not about analysing results, but the educational aspect, the desire to nurture leaders. (Personal communication, 9 June 2005)

The divisional manager at Kyocera commented in a similar way as follows:

Quantitative numbers are the basis [for the performance evaluation], but it is often the case that something accidental happens, such as the emergence of a large amount of defectives. In such a case, you cannot avoid getting into a deficit. What is more important is that you are able to explain the situation. It is like you do financial

reporting every day, and it is essential to take such an opportunity. As the top management [of the amoeba], you need to explain the situation. ... What matters is what actions you take [to deal with the situation] and how you make the use of the experience next time. (Personal communication, 27 July 2004)

The performance result is understood to be probabilistic and subject to uncertainty. With this mutual understanding about the nature of planning and the performance result, amoeba leaders are forced to be reflective in their planning. With these practices, amoeba leaders expect that they will not be blamed for failing to achieve the target, but that they will be scrutinised about the appropriateness, evaluated in terms of the core values, of their planning ex post. This assumed attitude that emphasises planning rather than results is often observed at Kyocera and other companies which have introduced the AMS.

The inherent difficulty of achieving an aggressive target sometimes remains intact no matter how hard amoeba leaders can try to devise detailed plans. The fundamental fact that a high-stretch target is difficult to achieve can remain true. Even in such a difficult situation, the responsibility accounting system which creates survival conditions for amoebas is used in a forward-looking manner, emphasising the planning by lower management, which in turn encourages amoebas to cope with challenges which are perceived as dynamic tensions between competing values.

Discussion

A distinctive feature of Simons' LOC framework is its emphasis on the way in which different MCS are combined to generate dynamic tensions rather than on any of the technical attributes of MCS or the intended roles they have been assigned to perform. (Frow,

Marginson, & Ogden, 2010, p. 446). However, the interdependencies among different levers are ambiguous in the LOC framework (Tessier & Otley, 2012; Widener, 2007).

The analysis of the case company reveals the way in which core values affect the design and use of the responsibility accounting system as a diagnostic control system, a interactive control system, a belief system, and a boundary system. The design of performance measures for responsibility centres, and the way in which responsibilities, that is, setting targets and devising plans, reflect various aspects of the core values. Our case analysis also illustrates how the responsibility accounting system communicates core values. In setting targets, devising plans, reporting results, and projecting forecasts, core values are referred to and discussed. Thus, the responsibility accounting system in practice takes a role as a communication device for the core values, and accordingly functions as a belief system and a boundary system simultaneously.

Competing values as sources of dynamic tensions

Mundy (2010) found that balance, rather than dynamic tension, is directly determined by managerial uses of MCS. It is argued that factors such as internal consistency, logical progression, historical tendency, dominance, and suppression affect an organisation's ability to balance the controlling and enabling uses of MCS. The finding that internal consistency is a necessary condition for the balanced use of MCS is in stark contrast with our case where inherent tensions embedded in the core values are the source of dynamic tensions.

It is argued in Mundy (2010, pp. 513-514) that internal consistency is a necessary condition for a balanced use of MCS by ensuring that employees receive clear and coherent messages about the importance of particular organisational imperatives and priorities. The absence of internally consistent belief systems causes employees to have little sense of common purpose, which results in attempts to align values and controls in their own way.

The concept of internal consistency in Mundy (2010) has two dimensions: an internally consistent belief system and a belief system consistently reflected in other systems. In our case analysis, it was found that Kyocera's belief system is consistently reflected in the other control systems. However, within the belief system competing values reside. These competing values, such as familism, marketism, romanticism, and realism, are said by members of the organisation to be equally important. When discussed alongside the implications of the competing values of their belief system, executive officers as well as amoeba leaders commented that each value is important and should be attained to the highest possible degree (personal communications, 26 November, 2007, 3 October, 2009). An executive officer mentioned at a feedback meeting that 'the relationships among competing values should not be regarded as a trade-off. The term trade-off is often used as an excuse' (3 October 2009). The responsibility accounting system of the AMS is practised to enable managers at the lowest level to face managerial challenges which are rooted in inherent tensions. It is indeed the inherent tensions between competing values which are the sources of dynamic tensions.

The contrasting results can partly be explained by the difference in the focal points of examination. Mundy (2010) was concerned with the higher level of organisations, while our case analysis is focused upon the lower management level. Managerial efforts in our case analysis are concerned with how core values are enacted in the daily practices of the responsibility accounting system, while in Mundy (2010) the underlying concern was that of intended strategy and top management involvement in strategy implementation. Competing values must be prioritised for an intended strategy to deliver a consistent and coherent message to the members of an organisation otherwise employees are left to make value-laden decisions on their own as Mundy (2010) argued. In contrast, it is not the implementation or the formulation of deliberate strategy, but strategy as a perspective and its effects at the lower

management level that are our focal point. Our case analysis illustrates that generating dynamic tensions originating from competing values through MCS encourages lower managers to face challenges and cope creatively with them.

Relative and multi-directional view of opposing forces

Our case analysis illustrates how the core values as well as the responsibility accounting system are used simultaneously as a belief system, a boundary system, interactive control system, and a diagnostic control system. The competing values in the control levers generate various perceived dynamic tensions at the lower management level. It is found that sets of dynamic tension originate from competing elements within the core values. The responsibility accounting system, along with philosophy educational training, communicates competing elements within the core values. The core values, positively as a belief system and negatively as a boundary system, convey value-laden messages to organisational members who then make sense of the situation they are in, understand the challenges they face, and account for the meaning and the legitimacy of possible actions which they can take. With these roles as a belief system and a boundary system, the responsibility accounting system communicates competing values which are potentially in conflict.

Dynamic tensions are generated by opposing forces through MCS. These opposing forces are not inherently positive or negative but more nuanced and conditional upon the situation in which these forces are exerted. Forces that originate from familism can sometimes be inspirational while at other times they can be constraining. Familism proposes that members of organisations are like members of your family, an approach which comes very close to that of paternalism and can be both positive and negative. We have found that familism is inspirational because it is constraining. Marketism can be inspirational when repetitive routines on the factory floor are painfully boring, but can be constraining when it

becomes an iron cage. We have found that marketism is inspirational and simultaneously constraining. Similarly, romanticism and realism can be both inspirational and constraining.

Our case analysis illustrates that the functioning of dynamic tensions depends upon the way in which generic inherent tensions are tailored conceptually in the core values and reflected in the practice of the responsibility accounting system. The contents of the core values provide languages to recognise inherent tensions. The practice of the responsibility accounting system, while being used as a diagnostic system and interactive system jointly with the core values, is to function as a belief system and as a boundary system to generate opposing forces to create dynamic tensions.

Thus, the MCS creates dynamic tensions which are perceivable for amoeba leaders so that they can face managerial challenges and cope with them. The visibility of managerial challenges is shaped by the MCS at the lower management level. Further, the competing values in our case sites are found to exert opposing forces on each other which are more nuanced than simply being positive or negative. The directions of the dynamic tensions are determined by the way the opposing forces that MCS generates are combined.

Inherent tensions between community and market

Existing literature on dynamic tensions is mainly concerned with tensions between efficiency and flexibility. Henri (2006, p. 533) specified three kinds of generic inherent tension which must be reconciled and balanced to allow the effective control of business strategy in order to investigate the relationships between dynamic tensions and organisational capabilities. These tensions are unlimited opportunities versus limited attention; intended versus emergent strategy; and self-interest versus the desire to contribute.

The analysis in this paper has depicted another important type of generic tension, which is that between communal values and economic values. The dynamic tensions originating from inherent tensions between familism and marketism exemplify the type of tension between communal values and market concerns.

The practice of the responsibility accounting system at Kyocera shares Ansari's (1979) notion of an 'open' systems approach with 'continuous budgeting', described in Frow, Marginson, & Ogden (2010, p. 449). The consideration of variances is not confined to seeking corrective action in order to ensure the achievement of pre-set individual level targets, but is 'opened up' through the MCS to take account of the company's core values, or current strategic priorities in the case of 'continuous budgeting'. The company also shares the approach that the effective functioning of the responsibility accounting system hinges upon managers' commitment to corporate values and goals. Both the AMS and 'continuous budgeting' obtain control over shared visions and values through organisational culture which has been established over a long history.

However, the AMS and 'continuous budgeting' fundamentally differ in the ways in which they intend to secure managers' commitment to organisational values and goals, and to ensure a shared understanding of how and why these values and goals should be achieved. The functioning of 'continuous budgeting' is based upon a particular aspect of budgeting's 'disciplining' effects. Under 'continuous budgeting', managers are aware that 'getting a bad performance review' may lead to having 'to find somewhere else to work' (Frow, Marginson, & Ogden, 2010, pp. 456-457). The AMS respects job security highly and asks for the commitment of organisational members to help keep this promise.

It is not only top managers but also lower managers and shop floor workers who have reasons to confront the changing business environment surrounding the company under the value-driven responsibility accounting system. The disciplinary effects of the MCS is more

sophisticated here than a system under which managers are threatened to lose their job if they do not achieve the targets. It is not only their individual job but the fate of the collectivity which is at stake under the value-driven responsibility accounting system. The disciplinary effect of the value-driven responsibility accounting system ties each member with common destiny.

Lower managers do not run on the rails laid by distant top managers, nor do they simply follow prescriptions. While the belief system inspires organisational members with competing values, the boundary system constrains them with the same set of competing values. Together, the belief system and the boundary system communicate competing values to which every organisational member should attend. When such competing values are reflected in the responsibility accounting system, various dynamic tensions are generated at the lower management level. Because of the changing internal and external environments, innovative activities emerge through amoeba leaders' experimentations, which are fostered by the way dynamic tensions are created. With the dynamism created and managed by the MCS, the inherent tensions are no longer incompatible with each other, but become a dynamic tension which encourages organisational members to move forward.

Concluding comments

The generative power of core values is found to reside not in internal consistency, but in inherent tensions. The core values constrain the amoeba's attention to a certain set of concrete managerial dilemmas as dynamic tensions. It is these specific dilemmas which are framed as important issues to be dealt with by the core values and the responsibility accounting system. The inherent tensions are made visible by the MCS so that they become perceived dynamic tensions for lower level managers. The content of our case analysis illustrates how amoeba leaders are made cope with dynamic tensions which are derived from

inherent tensions in the core values. The study demonstrates that emergent practices are generated when amoeba leaders exercise their practical wisdom when confronted with these dilemmas. In these instances, the inherent tensions are transformed into the dynamic tensions, which are not barriers but sources of creative activity.

This paper contributes to the extant literature on dynamic tensions first by demonstrating how competing elements of core values affect the design and use of a responsibility accounting system, second by illuminating how these competing values are enacted in the practice of the MCS at the lower management level, third by illustrating a more nuanced understanding of dynamic tensions by showing relative and multi-directional forces exerted by the MCS, and finally by adding further inherent tensions which MCS should manage to those between efficiency and flexibility, that is, inherent tensions between community values and market concerns.

The competing values in the belief system are found to be sources of various dynamic tensions. Competing values reflected in the responsibility accounting system generate forces in different directions which create dynamic tensions at the lower management level. The dynamic tensions at the lower management level in our case analysis take the form of managerial dilemmas. The responsibility accounting system, along with the core values, give visibility and the meanings of managerial challenges with which lower level managers must cope are created.

The dynamic tensions in the form of managerial dilemmas are created by opposing forces generated by the MCS. The opposing forces of the MCS are more nuanced than the positive/negative dichotomy. Familism, marketism, romanticism, and realism dimensions in the core values of the case company generate multi-directional forces. Whether a particular force is positive or negative is relative to each other and depends upon the context in which it is used.

The findings of the study suggest avenues for further research regarding the sources and nature of dynamic tensions generated and managed by the MCS. The study illustrates that the contents of core values and their relationships affect the nature of the dynamic tensions. A different set of core values can result in the generation of variable dynamic tensions which are not captured in our analyses. Similarly, the way in which the core values are reflected in MCS can have different consequences for the lower management level. Further investigations can examine variations of dynamic tensions and consider their effects at the lower management level.

The study is subject to several potential limitations. The case study method and qualitative approach employed allowed us to investigate complex relations and aimed to obtain theoretically generalisable insights. However, the data were collected from a small set of individuals; thus the findings should be treated with caution. Further, as discussed in the method section, our investigation is supported by highly reflexive practitioners, an approach which could have caused uncorrected bias in our findings although the triangulations with different sources of data and the feedback meetings with various types of interviewee mitigate the problem. Finally, the empirical data are collected in Japan, whose societal as well as cultural characteristics have not been examined in this paper. Tolerance against value ambiguity can be different in other societal and cultural contexts (Schneider & Meyer, 1991), which could affect the generalisability of our findings.

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Table 1.

Interview list.

Date	Interviewees	Length (h)
May 2004	KCCS divisional manager	2
July 2004	KCCS divisional manager, consultant	2
Aug. 2004	KCCS divisional manager, consultant	3
Sep. 2004	KCCS divisional manager, consultant	2
	Kyocera LTTC division subsection leader	2
	Kyocera LTTC division section leader	2
	Kyocera management planning division section leader	2
Oct. 2004	Kyocera administrative division manager, section leader; CI division section leaders	3
	Kyocera institute of management vice manager, section lead section sub-leader	2
	Kyocera management planning division manager	2
Autumn 2004	KCCS seminar series (observation)	40
June 2005	KCCS consultant	2
	SRT corporation president, production head office manager	2
Sep. 2005	Kyocera executive advisor, KCCS divisional manager	2
Nov. 2005	KCCS consultant	2
Jan. 2006	SD corporation production management division group leader	2
	SD corporation president	2
	SD corporation production leader	1
	SD corporation planning office manager	2
Nov. 2006	SRT corporation president, production head office manager	2
Feb. 2006	Kyocera ex-executive	2
July 2006	KCCS divisional manager	2
	KCCS divisional manager	2
June 2006	Kyocera networking event (observation)	6
May 2007	KCCS president, vice-president (former divisional manager) consultant	2
Oct. 2007	KCCS consultant	2
Nov. 2007	KCCS vice-president (former divisional manager), consultant	2
Dec. 2007	KCCS consultant	2
Feb. 2008	Kyocera factory manager	2
	Kyocera factory morning meeting (observation)	1
	Kyocera production division leader	2
	Kyocera production division leader	2
Apr. 2008	Kyocera Mita president, executive	3

Table 2.

The AMS philosophy education programme at the Kyocera group.

		Top Management	Mid-level Employees	Employees	Part-time Employees
Philosophy Education	Domestic	Director & Executive Philosophy Training	Supervisor & Assistant Supervisor Philosophy Training	Employee Philosophy Training	Part-time Employee Training
	Overseas	Top Management Seminars	Middle Management Seminars	Employee Philosophy Training	

WP is expressed as the sum of the black areas.

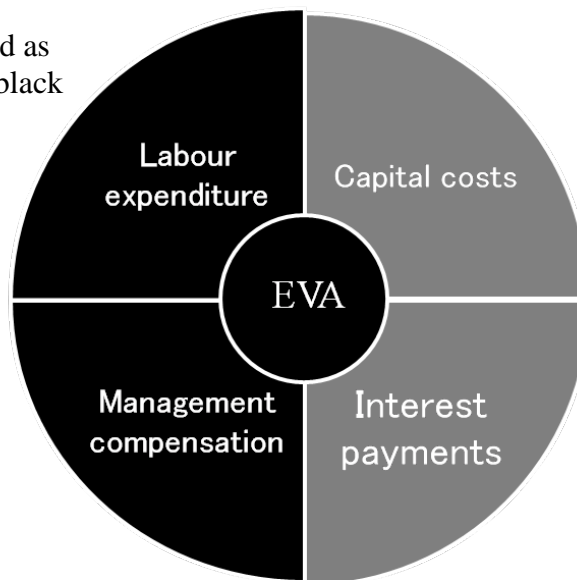


Fig. 1.

Structure of workers' profit.