

Responsibility Accounting System as a Belief System

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Abstract

This paper investigates how core values affect the design and use of a responsibility accounting system in an organisation, and how the responsibility accounting system function both as a diagnostic control system and a belief system simultaneously. Informed by Simons (1995b, 2000) levers of control framework, we analyse the relationship between a belief system and diagnostic control system through the investigation of a company's core values and its responsibility accounting system using a case study method. The core values of the case organisation are found to be constituted with competing values, which are reflected in various parts of the responsibility accounting system. While it is found that the responsibility

accounting system is used primarily as a diagnostic control system to monitor performances relative to pre-set plans, dynamic tensions emerges not only between the diagnostic control system and the belief system, but also within the belief system. The competing values that are reflected in the responsibility accounting system are communicated through to the responsibility centre. The dynamic tensions between competing values induce responsibility centre leaders to confront with and challenge managerial trade-offs, dilemmas, and conflicts. Incorporated with competing values, the responsibility accounting system both constrains and enables framing of their responsibility in action at the lower management levels. The findings illustrate how the responsibility accounting system used both as a diagnostic control system and a belief system enables fast and creative (re)actions to changing environments at the lower management level. This paper contributes to the literature on the levers of control framework in two ways: firstly, by providing a multi-layered view of dynamic tensions, and secondly by providing a dialectic view of the dynamic tensions.

Keywords: Levers of control; dynamic tensions; belief system, diagnostic control system, responsibility accounting system; core values; competing values; dialectic view

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1. Introduction

The aim of this paper is to investigate the relationship between core values and a responsibility accounting system of an organisation and to show how the diagnostic control system and the belief system create dynamic tensions. We are informed by Simons (1995b, 2000) levers of control (LOC) framework to examine the relationship between the two management control systems (MCS). Specifically, we analyse the relationship between core values and a responsibility accounting system of organisations using a case study method. In so doing, we illustrate how the responsibility accounting system is used both as a diagnostic control system and a belief system, and the way in which responsibility accounting system creates dynamic tensions.

Simons LOC framework has been influential and has been increasingly utilised in exploring the role of management accounting in relation to other management control systems, though there remain many ambiguities around this framework (Tessier & Otley, 2012). The LOC framework decompresses 'strategy' into four levers of control, namely, belief, boundary, diagnostic, and interactive control systems (Simons, 1995b). It is partly its ability to acknowledge the importance of belief systems to an organisation in relation to 'strategy' that explains the increasing usage of the LOC framework in management accounting literature. Simons (1995b, p. 34) explains that belief systems primarily consist of the core values that provide positive energy to enact strategy in the organisation.

The role and function of belief systems has not been widely explored. As Collier (2005) highlighted, accounting research that utilises the LOC typically does not focus on or make mention of belief systems, with a few exceptions such as Widener (2007) and Mundy (2010). Although it has started to be investigated, relatively scant attention has been paid

either to the relationship between belief systems and other control systems, or to the processes through which belief systems affect other control systems. This may be partly because of the way Simons's initial categorization of control systems distinguished belief systems from diagnostic systems (Chua & Mahama, 2007, p. 54). As Chua and Mahama (2007) pointed out, the separation of the two control systems might have misled the users of the LOC framework to assume prematurely that diagnostic systems function via 'objective' knowledge, whereas belief systems operate via social norms that are incommensurable with each other. Technical control mechanisms may embody beliefs and values, and therefore may enact social control (Callon, 1991; Law, 1992). This critique brought us to question of what and how belief systems are embodied in other management control systems and enacted in organisational activities.

Organisational learning capabilities have been a key conceptual interest in the LOC framework. Within an ever-changing business environment, managers should be well aware of the need to re-configure organisational structures, capabilities, and product technologies to cope with disruptive changes. Some MCS hinder and others facilitate innovation and opportunity-seeking. At the initial conceptualization of the LOC framework, Simon (1995, p. 91) explained that 'while diagnostic control systems do constrain innovation and opportunity-seeking to ensure the predictable goal achievement needed for intended strategies', interactive management control systems 'stimulate search and learning.' Widener (2007) showed that interactive control systems are used by top management to acknowledge strategic uncertainties, which in turn facilitates organisational learning. The focus of analytical interest in the existing literature has been the style of MCS use by top management.

As Tessier and Otley (2012, p. 182) note, an ongoing limitation of the LOC is that 'employees are considered to be passive actors (see Gray (1990)),' although it has been widely acknowledged in knowledge management literature that strategically implicated

learning occurs every corner of an organisation (Tsoukas, 1996; Nonaka and Toyama, 2007). Because diagnostic control systems, such as responsibility accounting systems, are usually used not only by top managers but also by middle and lower managers, examining the roles of diagnostic control systems may shed light on the interactions and learning at the bottom layers of organisation.

This paper seeks to provide empirical evidence and to draw conclusions about the relationship between a belief system and a diagnostic control system, and their effects on the way dynamic tensions are created at the lower management levels. Exploring the relationship and its effects, this paper also contributes to current understanding of the dynamic tensions by showing what and how dynamic tensions are created at the case site.

The remainder of the paper is organised as follows.

- In Section 2 we briefly review the LOC framework and the developing accounting literature that utilises it.
- In Section 3, we provide an overview of the case site along with the research methods that we employed.
- In Section 4 we give an overview of core values of the company and how they are infused within the organisation.
- In section 5 we look at the way the responsibility accounting system is designed and used at the case site.
- In Section 6, we describe how core values are embodied in the way the responsibility accounting system is used at the lower management level.
- In Section 7, we describe how core values are embodied in the way the performance measures are designed and interpreted at the case site.

- In Section 8 we illustrate the way in which the responsibility accounting system generates dynamic tension and its effects on creative activities at the lower management level.
- In Section 9 we discuss implications before concluding in Section 9.

2. Simons Levers of Control Framework

Simons Levers of Control (LOC) framework has been widely used to study the relationships between various types of MCS and their antecedents and effects upon organisational behaviour and performance. For example, the LOC framework is used to investigate the relationships between innovative activities and the style of accounting control (Bisbe & Otley, 2004), the two-way relationships between strategy and MCS (Kober, Ng, & Paul, 2007), the relationships between strategic environments and the way MCS are combined and used (Widener, 2007), and how the controlling and enabling use of MCS are balanced (Mundy, 2010). In this section, we provide a brief overview of the LOC framework and the literature that utilises them.¹

The LOC framework consists of four interdependent systems that play off the inherent tensions within organisations to implement strategy. The first of these, which this paper is concerned with, is belief systems. Simons (1995, p. 34) defines belief systems as

the explicit set of organisational definitions that senior managers communicate formally and reinforce systematically to provide basic values, purpose, and direction for the organisation....A formal belief system is created and communicated through such documents as credos, mission statements, and statements of purposes.

Mundy (2010, p. 501) notes that ‘these definitions are stated in broad, value-laden terms, because the purpose of a belief system is to inspire organisational search and discovery

¹ This brief overview of the LOC framework is based on Jollands, Akroyd, and Sawabe (2012).

without prescribing the precise nature of the activities.’ Belief systems primarily consist of the core values of the organisation. Thus, we can view the core values that make up the belief systems as ‘strategy as “perspective”’, designed for ‘obtaining commitment to the grand purpose’ (Simons, 1995b, p. 159). That is, an organisation’s core values provide positive direction for employees to search out opportunities to implement strategy.

The second LOC are boundary systems, which outline the areas in which the organisation plans to operate, or, as Simons (1995b, p. 39) states, ‘delineate the acceptable domain of activity for organisational participants’. Boundary systems are seen as a negative control, in that they are designed ‘to establish limits based on defined business risks, to opportunity-seeking’ (Simons, 1995b, p. 39). Thus, we can understand boundary systems as ‘strategy as “position”’, designed for ‘staking out territory’ (Simons, 1995b, p. 159).

The third lever is the diagnostic control systems that supply information and feedback to management on the efficiency and effectiveness of the operation. Diagnostic control systems are distinguished by the following three features: ‘(1) the ability to measure the outputs of a process, (2) the existence of predetermined standards against which actual results can be compared, and (3) the ability to correct deviations from standards’ (Simons, 1995b, p. 59). Diagnostic control systems are negative feedback systems that are ‘designed to ensure predictable goal achievement’ (Simons, 1995b, p. 59, pp. 75-76). Diagnostic control systems are designed to assist in the implementation of intended strategy (Mintzberg, 1978). Thus, we can understand diagnostic control systems as ‘strategy as “plan”’, designed for ‘getting the job done’ (Simons, 1995b, p. 159).

Finally, the role of an interactive control system is to aid learning and dialogue, particularly in regard to strategic uncertainty and ‘are formal information systems managers use to involve themselves regularly and personally in the decision activities of subordinates’ (Simons, 1995b, p. 95). Interactive control systems are designed to identify and assist in the

implementation of emergent strategy (Mintzberg, 1978). Thus, interactive control systems can be understood as ‘strategy as “patterns in action”’, designed for ‘positioning for tomorrow’ (Simons, 1995b, p. 159).

In the initial categorization of the interactive control systems, Simons (1991, p. 50) notes that ‘top managers focus their attention on strategic uncertainties that could derail their vision for their future and use selected systems interactively to focus the attention of the entire organisation on these uncertainties.’ The presupposed primary users of the interactive control systems are top managers who learn emergent patterns in action that proactively reflect strategic uncertainties. Simons (1995, p. 97) is explicit 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’, though he acknowledges that such interactions occur at every level of an organisation. In contrast, diagnostic control systems are used for Management by Exception (Simons, 1991, p. 49) to economize top management attention (Simons, 1995, pp. 70-71) and letting subordinates make many decisions on their own, while keeping these decisions in line with organisational goals (Simons, 1995, p. 59).

Simons (2000) provides a more comprehensive description of core values, which are the main elements in belief systems, as follows:

To ensure that employees engage in the right type of activities, managers must first inspire commitment to a clear set of core values. **Core values** *are the beliefs that define basic principles, purpose and direction.* Often rooted in the personal values of the founders, core values provide guidance about responsibilities to customers, employees, local communities, and stakeholders. They explicitly define top management’s views on trade-offs such as short-term performance versus long-term responsibilities. Core values provide guidance to employees where rules and standard

operating procedures alone cannot suffice. (Simons, 2000, p. 276, emphasis in original)

As we will see below in our case, the core values of the site are actually rooted in the personal values of the founder, which were developed in socio-historical contexts. It is worth noting at this stage that the core values of our case site indeed define explicitly the founder's views on trade-offs, whose implication will be discussed later in this paper.

Earlier accounting literature that utilised the LOC framework has concentrated on diagnostic and interactive controls and the relationship between the two controls (Ahrens & Chapman, 2004). Typically, this type of research focused on topics such as the use of budgets (Abernethy & Brownell, 1997), non-financial management accounting change (Vaivio, 1999), and innovation management (Bisbe & Otley, 2004). This concentration on diagnostic and interactive controls was criticised (Collier, 2005; Mundy, 2010) as focusing only on half of the LOC and providing at best a partial understanding of how MCS work in practice.

Thus, research within the accounting literature has expanded to include a more holistic view of MCS through not only investigating diagnostic and interactive control systems, but also through the examination of belief and boundary systems. Examples include Bruining, Bonnet, and Wright (2004), who noted that there is a need to develop coherence between strategy and all four LOC subsequent to a management buyout; Tuomela (2005, p. 298), who found that not only are strategic responsibility accounting systems used diagnostically and interactively, but also that these systems have implications for belief and boundary systems in that the choice of measures strengthens beliefs and boundaries; and Widener (2007), who examined the existence of mission and vision statements and the extent to which senior management hold them to be important.

Recently, the concept of dynamic tension has emerged as a key theoretical focus of the LOC framework (Mundy, 2010). MCS generate a 'dynamic tension between

opportunistic innovation and predictable goal achievement that is essential for positive growth' (Simons, 1995, p. 153). Simons (1995) provided a general explanation of how dynamic tensions arise:

Belief control systems and interactive control systems create positive and inspirational forces. Boundary systems and diagnostic control systems create constraints and ensure compliance with orders. Senior managers use these countervailing forces to achieve a dynamic tension that allows the effective control of strategy. (Simons, 1995, pp. 7-8)

Dynamic tensions produce unique organisational capabilities that give organisations a competitive advantage (Henri, 2006b; Widener, 2007; Mundy, 2010), because the way organisations deal with challenges associated with the development and management of dynamic tensions results in the necessary balance between achieving desired goals under uncertainty by encouraging learning and innovation (Frow, Marginson, & Ogden, 2005, 2010; Marginson, 2002).

Successful managers use MCS to provide stability and certainty by assuring goal congruence among various organisational activities. At the same time the 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 (Roberts, 1990; Sprincke, 2003; Mundy, 2010). Frow, Marginson and Ogden (2010) provide a detailed case analysis in which budgets are deployed as an integral component of MCS that both contribute to financial discipline in terms of achieving pre-determined set targets and to managers' capability for rapid and creative response 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.

Regarding belief systems, strategic visions that are communicated as a part of a belief system 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 the belief system and the boundary system, Marginson (2002) examined the role of a set of company values on strategy processes at a telecommunications company in the U.K. He found that the company's belief and boundary systems had an emancipating effect on strategic activity by creating a climate that encouraged members of the company to suggest new ideas to others. Marginson (2002) argued that value systems were used as mechanisms for strategic change. The value systems compelled managers to be involved in the detection of new ideas and in the mobilization of resources around those new ideas.

In his exploratory study, Marginson (2002) called for further investigation into the role of MCS in creating tensions that encourage the emergence of new strategies (p. 1027). The evidence in Marginson's case suggested that belief systems interact with other MCS to affect managers' strategic endeavours not through the alignment between different MCS, but through the tensions between them (p. 1025).

Henri (2006) conducted quantitative research to examine the roles of MCS in creating dynamic tensions that affect organisational strategic behaviour based on RBV (e.g., Barney, Wright, & Ketchen, 2001; Hoopes, Madsen, & Walker, 2003). He claimed that a balanced use of interactive and diagnostic performance measurement systems creates dynamic tensions within the firm. Drawing on conflict and tension literature (e.g., DeDreu, 1991; Nicotera, 1995), Henri (2006) showed in his quantitative study that the dynamic tensions created by MCS positively affect organisational capabilities by fostering organisational dialogue, simulating creativity, and focusing organisational attention.

Mundy (2010) further elaborated that a belief system is connected both to interactive processes in strategic planning and to diagnostic processes as core values, which serves as the

basis for appraisal and performance measurement (Mundy, 2010, p. 507). Mundy emphasizes the importance of internal consistency in 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). Mundy (2010) further suggest that internal inconsistency is inevitably results in poor financial results, because the balance among MCS is lost. Mundy (2010, p.513) contends that an organisation's vision and purpose facilitate a coherent approach to organisational activities (Flamholtz, 1983; Henri, 2006a; Simons, 1994), and argued that this assumption is supported in prior studies where the realization of various organisational agenda are all implicitly dependent on an internally consistent message communicated through the levers of control (Emsley, 2001; Dent, 1991; Knights & Willmott, 1993; Ahrens & Chapman, 2004). Mundy (2010) provided a convincing story illustrating how a belief system strongly affects other control levers in such a way that the internal consistency of the belief system is the key to maintaining balance between the controlling and enabling uses of MCS, thus generating dynamic tensions. Our case study offers another story where potential contradictions within a strong belief system generate dynamic tensions.

3. Study Design and Method

The analysis of this paper is based upon a field study conducted in a Japanese manufacturing company and a consulting arm offshoot from its planning office. We adopt an understanding of field research according to which the main task of the researcher is to inquire into a field of practices and to make sense of the field data by abductive reasoning, i.e., by moving back and forth between data and theory (Ahrens & Chapman, 2006; Lukka & Model, 2010).

The main case site is Kyocera Corporation (hereafter: Kyocera). Kyocera, Ltd., is a manufacturing company with JPY 1,126 billion or USD 14 billion in consolidated revenue

for the year ending March 2009. Within the Kyocera group, there were 219 companies as of the end of the fiscal year 2009. We have conducted in-depth and longitudinal field research since May 2004, and it is still ongoing. We conducted both open and semi-structured interviews, archival data collection, and on-site observations at Kyocera and its consulting arm, which is called Kyocera Communication Systems (KCCS).

Kyocera was theoretically chosen as the main case site because of its management control systems. Kyocera contends that the core values and the responsibility accounting system are ‘a pair of wheels’ of its MCS, and they make an inseparable team (Inamori, 2006). Their core values are called Kyocera Philosophy. Kyocera Philosophy is explicitly stated in documents such as credos, mission statements, and statements of purpose. Their responsibility accounting system is called the Amoeba Management System (AMS). The AMS provided an empirical basis for the notion of ‘mini profit centre’ in the 1990s (Cooper, 1994, 1995; Hiromoto, 2012). This emphasis on the role of core values and responsibility accounting system by Kyocera is the theoretical rationale for us to choose it as the main case site.

The Composite Case Site

There are three types of research sites 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 the AMS was born and raised.

KCCS originated as an offshoot from 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 2009 is the former head of the management planning office. It was under his leadership that Kyocera’s responsibility accounting system was developed systematically.

Over time, Kyocera's responsibility accounting system was stylized and formalized as a distinctive set of management accounting practices. These stylized 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, some of which are those companies acquired by Kyocera, such as Kyocera Mita Co., and other independent companies, such as Shindengen Co., in our case study.

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.

Table 1 will be around here

The interviews typically lasted for about two hours. All interviews were recorded and later transcribed. Interviews were designed so as to triangulate the evidence from at least three different perspectives: senior managers, lower 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 that date back to 1960s, formed the background contextual understanding of the socio-historical development of the AMS.

The collected field data are documented and filed. We conducted the data analysis jointly. The major findings and their implications are provided as feedback to the interviewees formally in subsequent interviews and more officially at various types of meetings hosted by KCCS. One of the purposes of providing feedback is to ensure that our understanding of the AMS is authentic to those who actually practice the AMS (Lukka &

Modell, 2010). On one occasion, one of the authors had an opportunity to make a speech about the main findings in this paper before an audience of a few hundred who were managers of Kyocera, KCCS consultants, and managers of their clients who use the AMS. It was a rare occasion when our findings, which emphasised potential contradictions within the core values and their effects through management accounting practices, were found to be novel to them; overwhelmingly, they appreciated them as authentic. We would like to hastily add that many details were provided in the discussion time after the speech.

Reflexive Interviewees

As is shown above, this longitudinal case study involves multi-reflexive processes in the sense that we are making dialogue with practitioners who are forced to be reflexive because of the situated practices they engage with. Most senior consulting practitioners at Kyocera have work experiences at the management planning office of Kyocera. The management planning office is the original place where the AMS was developed, applied, and continuously modified over time. The AMS and 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 firm is in its ability to design, implement, and operationalise the AMS. In particular, KCCS seeks to improve its clients' practical ability to utilize the AMS. An executive of KCCS commented that:

We think that our business is not only bringing the box (i.e., 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 mind set 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 is repeatedly observed at both Kyocera and KCCS.

The AMS is instituted at KCCS as well. There are noticeable differences in several aspects between a manufacturing company, i.e., Kyocera, and a consulting company, i.e., KCCS. The differences between them resulted in variations in terms of the design of the AMS and the way in which it is used in practice.

Soon after KCCS was spun off from Kyocera, the differences between them became apparent. KCCS consultants who used to be management accountants at Kyocera started to recognize explicitly taken-for-granted properties of the AMS that had been unnoticeable before. Drastic changes in the role, i.e., from internal management accountants to consultants who provide services to external clients, made the once taken-for-granted implicit properties become a part of the explicit knowledge of the professional consultants at KCCS.

The prior history and the current nature of operational practices of consultants have resulted in an accumulation of multi-layered reflexivity at KCCS, where the AMS in practice and the AMS for consultations are intertwined. The AMS is what they utilize at KCCS, while it is also what they provide to the clients. A number of consultants explained to us how they are now forced more to appreciate the nature of what they sell, i.e., the AMS, than the time 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 the clients who do not share the same historical background with Kyocera and KCCS. Interviewees know how to explain what they are doing very well. It seems to us that the vocabularies of consultants are shared among them, and the way in which the AMS is explained is highly standardized. Our interviewees are highly sophisticated reflexive practitioners (Schon, 1984).

An obvious danger associated with accessing the field from, and being guided by, members of the consulting arm is that our perceptions are inevitably influenced by the

cognitive framework of the consultants. There is also a danger that we may be influenced by the values that favour consulting activities and thus develop a biased view in favour of them. We are aware of these potential dangers and take a cautious, reflexive approach in order to validate and interpret the findings. Critical view was the single most important reflexive tool to deal with these dangers.

There are some advantages to and opportunities provided by intense interaction with the consulting staff at KCCS. They have a powerful wealth of reflexive knowledge about the practices employed at KCCS, and they are eager not only to share their knowledge but also to listen to our understanding (Cooper & Morgan, 2008; Kaplan, 1986). Nevertheless, the aim of this research is not to report the practical knowledge of the KCCS consultants itself, nor is the aim to be merely advocates of the services provided by KCCS. On the contrary, we are aiming to use their knowledge in practice to provide some theoretical generalisations, and also to add new insights that 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 that the consulting practitioners are not currently aware of. The above mentioned episode about the speech made in front of practitioners shows that our critical approach has been reasonably successful in terms of authentic aspects of the validity of this research (Lukka & Modell, 2010).

4. The Core Values of Kyocera

According to the founder of Kyocera, core values are the ethical base upon which management decisions and activities should take place (Inamori, 2006). The notion of core values is usually referred to as the Kyocera Philosophy. The Kyocera Philosophy is stated in documents such as credos, mission statements, statements of management principles, and statements of purpose. The Kyocera Philosophy is also edited in a pocketbook, brochures, and posters. The pocketbook is given to all employees so that they always carry it with them

while working. The founder Inamori's speech, 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 site. We see them on corridors of factory floors, in meeting rooms of the headquarters, in office rooms of branches, on banners, on bulletin boards, and so forth. Although in Western corporations, formal beliefs systems are a relatively recent organisational development (Bartlett and Ghoshal, 1993; Simons, 1995; Marginson, 2002), a trend that is explained in reference to the growing complexity and diversity of firms, Kyocera explicitly declared the core of its Kyocera Philosophy at its earliest stage of development.

The Origin of the Core Values

The core of the Kyocera Philosophy emanated from an industrial dispute that took place in the earliest days of the company. The 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. In 1960, the company experienced an unexpected industrial turmoil for an infant venture company: the workers of Kyocera were about to go on strike. It was a period of furious industry dispute in Japan. There were a number of stark confrontations between organized labour and management. The so-called Japanese management, which is characterized by an in-house union and a cooperative relationship between employees and managers, would be formed in 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 comrades to start a new venture. They shared the

founder's dream to show his technology to the world through this company (Inamori, 2006, p. 22) and were prepared to sacrifice themselves for this dream. The seven comrades recruited twenty-one 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's recollection (Inamori, 2006). The founder invited the teenaged workers to his home to stay overnight and discuss the dispute. They reached a point of agreement when the founder promised to keep the firm alive; otherwise, he would give his own life away. By promising so, the founder made it clear that he was committing himself for the security of the employees' jobs (Inamori, 2006, pp. 24-26). It was not a mere economic compromise but a value statement that dissolved the confrontation; it 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 40th year anniversary, that the initial core values were drastically altered after the industrial disputes (Kyocera, 1999). The new core values were documented in credos that are manifested in internal documents such as the employee newspaper and the Philosophy pocketbook. The founder Inamori recalls that this confrontation was a starting point for reformulating the core value, which he calls the 'corporate rationale'. 'There is something more important than my own dream [that is, to

show 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). Since then, '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 'twelve principles of management' were formally established. The twelve principles of management are expressed as follows:

Twelve Principles of Management²

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. Maximize sales, and minimize costs;
6. Pricing is management;
7. Strong will delivers management results;
8. Have an ardent fighting spirit;
9. Move ahead with courage;
10. Be creative;

² The original principles are written in Japanese. We translated them into English in this paper.

11. Be honest with compassion;

12. Be cheerful and positive with dreams, hopes, and a good heart.

The twelve principles of management provide basic values and attitudes that members of Kyocera should embrace, while the corporate rationale states the reasons for the existence of Kyocera. The corporate rationale and the twelve principles of management are the founding base of the core values of Kyocera. Since its institution, it has been emphasized that the core values should be embraced among all members of the organisation, from senior managers to shop-floor workers.

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 the core values 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 the education program of its core values, which is called 'Philosophy Education Program' (PEP), both domestically and internationally in recent years since the founder's retirement. PEP is managed centrally by the Management Research Institute of Kyocera at their former head office site.

The participants in the program 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 for domestic, and 51,023 overseas) of Kyocera group companies attended PEP (Kyocera, 2009, p. 42). On average, each member of Kyocera group spends approximately three days at PEP each year. The program includes seminars specifically designed for different ranks, i.e., those for senior general managers, department managers, sectional managers, and other lower ranked workers.

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

Table 2 will be around here

The essence of the Kyocera Philosophy is concisely summarized in ‘The Kyocera Philosophy Pocketbook’. The first edition of the pocketbook was published in 1967, eight years since Kyocera’s establishment. Since the publication of the first edition, every single worker of Kyocera has been given the pocketbook on their first day at the company. At daily morning meetings, they recite passages of the pocketbook. It is routinized at Kyocera that all employees memorise the main elements of the Kyocera Philosophy. It is an established norm for Kyocera members to resort to the Kyocera Philosophy routinely in carrying out their activities.

5. Responsibility Accounting System at Kyocera

The corporate rationale and twelve principles affect the way in which the responsibility accounting system at Kyocera is designed and used. In this section, we will examine the way in which the core values are reflected 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 characterized by the way Kyocera is divided into small responsibility centre units that are called amoebas, and the way performance measures for each amoeba are designed formally.³ The responsibility accounting system of the AMS operates on amoebas, i.e., small organisational units. Each amoeba is assigned profit responsibility and endowed with discretionary power to draw both annual and monthly plans, which they execute. Each amoeba is said to be autonomous in this sense. The annual and monthly targets are jointly determined with their superiors, where the basis of the targets is anchored to the so-called annual master plan of the company. The size of an amoeba varies extensively, though at Kyocera, the typical size of an amoeba is about 10–15 members. There were approximately 3,000 amoebas at the company 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 may be amoebas specialized in welding, moulding, cutting, finishing, etc. Back office sections may also form functionally divided amoebas. 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 types of amoebas, namely manufacturing, sales, research and development, and general administration amoebas (KCCS, 2004, p. 34).

Diagnostic Use of the Responsibility Accounting System

The financial performances of the previous month are reported at monthly performance reporting meetings. The amoeba leaders report their results and compare them with the monthly targets and the annual targets. Senior managers and colleagues ask if there

³ The performance measures of the Amoeba have evolved over time. In its evolution, a performance measure that was introduced to compare productivity of factories in 1960s, has been modified to be used as performance measures for Amoebas. During the course of its evolution, the original productivity indicator, which was technically understood, was attached with value-laden significance that are derived from the core values. See Ushio (2012) for the historical evolution of the performance measures at Kyocera.

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 bring them back on track. If they are not able to provide appropriate replies at the meeting, then typically, they are asked to prepare better by the next meeting.

The monthly performance reporting meetings are held at the factory/branch level, divisional level, company level, and group-wide level. Accordingly, the participants at the meetings vary from lowest level amoeba leaders for the factory/branch level meeting, to the presidents of group companies that participate in the group-wide meeting. Like a matryoshka doll in Russia, the performance reporting meetings at the various levels have identical structure 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 operation. The responsibility accounting system measures the outputs of the smallest unit of responsibility centre, i.e., the amoeba, compares the actual performance with the pre-set target, 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 meetings (around 5–10 minutes each) are held in each office or factory: manager meetings, sectional meetings, and amoeba meetings.

In our observation at Kokubu Factory, one of Kyocera's largest factories in Japan with about 3,000 full-time employees and 1,000 part-time workers, that morning started, just like any other day, with manager meetings, where divisional managers and their subordinates (sectional managers) met at quarter to eight in the morning. They were quickly followed by sectional meetings, where sectional leaders met with amoeba leaders. After these, each amoeba leader rushed back to his own workplace to have a meeting with other members in

his/her amoeba. In each meeting, daily performance targets are reconfirmed and the results of the previous day were reported. Management issues, such as a delay of a certain parts, are reported and discussed if necessary.

At a sectional meeting that we attended, a manufacturing-amoeba leader was cautioned about a shipment delay by his superior and criticized 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 read passages from the Kyocera Philosophy pocketbook (observations, 21 September 2004, 8 February 2008). Details about how these meetings run are delegated to amoeba leaders, while amoeba leaders are encouraged to let their members engage with core values-related activities at morning meetings.

Each amoeba is bestowed authority and responsibility to set and execute its plan as mentioned above. Assuming the authority and bearing the responsibility is not an easy task for amoeba leaders. Amoeba leaders have to devise their own plans and have them approved by amoeba members as well as their superiors.

6. Core Values in the Use of Responsibility Accounting System

Amoeba leaders must draw up their own plans that have 'legitimacy' in the responsibility accounting system. This is where the core values come in. For example, management principle no. 5, 'Maximize sales, and minimize costs,' along with no. 6, 'Pricing is management,' are reflected in the way amoebas interact with each other. Regarding the importance of these principles, a divisional manager at KCCS commented as follows:

Each amoeba (including those who transact internally only) knows the market price.

They are eager to obtain latest market information. So, (when its counterpart amoebas offer internal transaction prices that are not based on the latest market price) it raises hell. (personal communication, 19 August 2004)

It is not only the sales amoebas that interact directly with the external market that take market information seriously, but also manufacturing and other amoebas that do not have interfaces with the external market. 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. We termed the underlying belief that the market should be the basis of internal negotiations ‘marketism’.

While marketism is prevalent in the Kyocera Philosophy, there is an equally, if not more, important ‘-ism’ in it. The corporate rationale that emphasizes the welfare and well-being of employees, 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’.

At the same interview in which he commented the importance of marketism, the senior manager told us that ‘(In drawing up their plans) amoeba leaders ponder how they can support and maintain their subordinates’ living’ (personal communication, 19 August 2004). An amoeba leader whose amoeba has no more than ten members commented:

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)

Alongside ‘familism’ and ‘marketism’, we deduced two more ‘-isms’ in the Kyocera Philosophy that guide amoeba leaders to draw up their plans in the responsibility accounting system, namely ‘romanticism’ and ‘realism’. The principles for management that are connected to ‘romanticism’ are no. 3, ‘You should hold a strong desire in your mind’, no. 7,

‘Strong will delivers management results’, no. 8, ‘Have an ardent fighting spirit’, no. 9, ‘Move ahead with courage’, and no. 12, ‘Be cheerful and positive with dreams, hopes, and a good heart’. In practice, those principles urge amoeba leaders and their members to have a certain distinctive attitude that could be labelled ‘romantic’, in the sense that it encourages challenging the *status quo*. Changing oneself and others are valued more than accepting things as they are and being content with oneself as is. With those romantic principles, daily routines tend to be biased toward an idealistic future. We term this underlying belief behind these principles ‘romanticism’.

There is another set of principles that are juxtaposed to the romantic principles. They are principle no. 1, ‘One needs to clarify goals for the business’, and no. 2, ‘Set concrete targets’. Those management principles direct that business conditions on which amoebas function should be explicitly specified. We term the underlying belief behind these principles ‘realism’, in the sense that workers are exposed to the external reality of the market and clients by numbers. At our case site, traces of romanticism and realism were observed in planning by amoebas. Let us first describe traces of romanticism and then those of realism in the planning stage of the responsibility accounting system.

Romantic bias is most apparently observed when amoeba leaders set their numerical targets both monthly and annually. As explained, amoeba leaders set their own targets and plans. Annual master plans and monthly plans that are aligned with the master plans are primarily designed by amoeba leaders. The initiative of setting targets is taken by amoeba leaders; nevertheless, the set target should be accepted by the amoeba members and be approved by their superiors. Amoeba leaders are expected to persuade both their members and superiors of the relevance of the target levels and the validity of their plans. The divisional manager at KCCS commented:

When the superior has an expectation of, say, 3,600 yen (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 for the target). However, he/she never tells 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 that shows the leader's strong desires. A sectional leader comments on it in another 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). Another time he asserted, 'We ask them again and again, it [setting a target] is "committing yourself" to the number, rather than just "planning"' (personal communication, 27 July 2004). As is shown in 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 importance of setting a high target is often enacted in their daily operations, especially in the planning stage of their target.

Realism is also reflected in the way that a plan is devised by amoeba leaders. 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 be based upon supporting data that show that the feasibility of the plan is well thought out. 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 set a target] (personal communication, 19 August 2004). Realism for amoeba leaders means that their plan should be highly detailed with convincing data that demonstrates the feasibility of the plan. Neither an aggressive target alone nor a detailed feasible plan alone is enough. An aggressive target accompanied by feasible detailed plan is required to be accepted by amoeba members and approved by its superiors.

7. Core Values in the Design of the Performance Measures

As amoebas are endowed with the authority and responsibility to draw up and execute their own plans in the responsibility accounting system, the design of the performance measures against which the responsibility of each amoeba is accounted for reflects core values as well. 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 surplus attributed to workers. The definition of workers here includes both managers and employees. The claims by capital providers are not appropriated from the surplus, but treated as a cost in this calculating structure.

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

Amoeba management aims to bring out and maximize employees' potentials, rather than exploit them by cutting their salary to improve the profit of the firm.... Although we have the words 'maximizing sales, and minimizing 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 minimized. [On the contrary,] we would like to increase the labour expenditure by improving turnover. We don't have the mindset that we should cut labour expenditure. (personal communication, 27 July 2004)

The family kinship, or familism as we call it here, is a key feature of the core values at Kyocera. We see that 'familism' is reflected in the way in which 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.

Figure 1 will be around here

Consistent with the corporate rationale, it is believed within Kyocera that employees should not be sacrificed for the sake of the corporation. This belief in 'familism' is often transmitted to other companies when the AMS is introduced. One consultant commented:

When the AMS is introduced to a firm, 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 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)

The other performance measure is HWP, which is defined as WP divided by total labour hours devoted to earn the respective WP of the amoeba. HWP makes it possible to compare performance among amoebas with different sizes. Along with corporate rationale and management principles, HWP converts dull and mundane worker life into exciting games within which amoebas compete against other amoebas. 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, while their duties as leaders are manageable to most of them because of the small size of 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).

Amoebas usually function in a highly interdependent way because of the way in which they are organized, but nevertheless they compete against each other by accounting numbers, i.e., WP and HWP. The performance of each amoeba is reported on a daily basis to all amoeba leaders. Amoeba leaders usually share the performance information with other members of the amoeba. At the same time, the performance results of amoebas are readily available to leaders of other amoebas. Such a management style with all performance results shared among workers in this company is called 'management in a glass office' (Inamori, 2006, pp. 165-166).

Performance measures convert otherwise mechanistic worker life into a lively competition. The competitive atmosphere resembles that of sports. Indeed, the same attitude toward competition is observed when amoebas compete against each other at an annual athletic festival held at factories. The chairman of Kyocera Kensuke Ito comments, '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 rockbound reality in which amoebas survive. As an 'independent company', it is required for an amoeba to achieve an HWP that is higher than the average hourly salary of its members. It is the minimum requirement for leaders to achieve an HWP that is higher than this hurdle. Failures to achieve this minimum requirement inevitably result first in replacement of the amoeba leaders, and second in the absorption of the underperforming amoeba itself 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. Realizing 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)

We have briefly sketched out how the core values are embodied in practice in a responsibility accounting system that is largely used in a diagnostic manner. The planning is regarded as important because it is where core values should be reflected. Face to face interactions provide opportunities for the superiors to teach their subordinates core values that are quite different from interactive use of MCS to cope with strategic uncertainties.

In the following sections, we introduce episodes from our fieldwork that then can be used to draw out how the dynamic tensions are generated, which, in turn, stimulate learning and innovation at the lower management level.

8. Dynamic Tensions of Responsibility Accounting System

Dynamic Tensions between Familism and Marketism

There is a potential contradiction between familism and marketism within the core values. As we have seen in previous sections, familism is encoded in the calculation structure of performance measures, WP and HWP, while marketism is encoded in the system of accountability that creates a competitive environment for amoebas to survive in. The abstract philosophical beliefs are encoded in a concrete management and its accounting system. However, the contradiction will remain a potential unless the both beliefs are enacted in practice.

For amoeba leaders, familism means that, on the one hand, they should treat their members as if they were family, and on the other hand, marketism means that they should achieve improved performance in terms of performance measures, i.e., WP and HWP. Ironically, as an amoeba becomes more efficient in physical terms, the potential contradiction grows into actual problems that amoeba leaders must confront. For example, the more efficient an amoeba becomes, the fewer workers hours are needed to carry out the same quantity of tasks. If they could subtract idle time from total labour hours when calculating HWP, improved efficiency would have resulted in increased HWP. However, idle time is included in total labour hours of HWP, so increasing efficiency is a necessary but not a sufficient condition to improve HWP.

In this situation, an amoeba leader might be tempted to lay off the redundant members so that improved efficiency is reflected in the performance measures. This option is morally prohibited because of familism. Consequently, the increased efficiency may just result in an abundance of labour without an improved HWP number. In this manner, potential contradictions between Familism and Marketism become recognised as dilemmas between improving financial performance and maintaining group harmony.

Coping with the dilemmas between Familism and Marketism

Confronted with the recognised dilemmas, some amoeba leaders creatively cope with the uncomfortable situation. Learning takes place when amoeba leaders strive to cope with the recognised dilemmas without pre-determined guidelines to solve them.

One of representative practices that have evolved 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 they agree upon the temporary transfer between them, the amoeba that sends members to other amoebas gets a higher HWP because of the reduced total labour hours, while the amoeba that receives the members gets higher WP because of increased revenue. This is a win-win condition between two amoebas. A subsection leader commented to us, ‘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 conceptualized by us as ‘autonomous labour accommodation’.⁴ The allocation of workers is autonomously decided through negotiation between the two amoebas of the same rank without commands from higher-ups.⁵ Performance measures actually activate amoeba leaders’ creativity in this instance at some localities.⁶

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

⁴ The concept of autonomous labour accommodation is novel to consultants and managers although some of them are knowledgeable enough to provide us number of concrete examples. The same holds for other concepts such as “speed linkage effect” and “expanding the scope of search”.

⁵ When the misallocation of labour forces continues persistently, there will be a permanent transfer of workers from one amoeba to another given that HWP of the receiving amoeba is high enough. The decision about permanent transfer is made by a supervising manager.

⁶ Hiromoto (1988) describes the Japanese way of cost accounting with the case of Hitachi Corporation. He shows that at Hitachi Corporation medium to lower managers autonomously allocate staff among each other assisted by cost information. In our study, we expand his understanding by explicitly analyzing 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 that have successfully increased their efficiency exert pressure upon neighbouring amoebas in their value chains to increase the 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 the neighbouring amoebas in front of others and their superior. In our observation at Kokubu Factory, the daily situation of each amoeba was reported to and shared among neighbouring amoebas at sectional meetings. An amoeba with higher performance than they had planned at the beginning of the month reported their updated prospect to other amoebas and asked its neighbouring amoeba in charge of the preceding process to speed up the shipment (observation, 21 September 2004).

On other occasions, efficient amoebas cooperate with sales amoebas to get more business orders. They send their people, usually the amoeba leader,⁷ to visit customers to help sales amoebas. In this case, they provide technical information to current or new customers to expand the sales volume. Manufacturing amoeba members that work with sales amoebas could learn about existing and potential customers with face-to-face interactions in these occasions. Accordingly, information about market opportunities is directly conveyed to the manufacturing amoeba with this kind of interactions between manufacturing and sales amoebas. In both cases, the improved efficiency of an amoeba is transmitted to neighbouring amoebas if they are successful. We term this effect as ‘speed linkage effect’.

From a rational perspective on strategy, the observed behavioural pattern of sending members to other amoebas requires specific planning *ex ante* and/or appropriate delegation of power to subordinates by superiors. For example, the first episode may be interpreted as a

⁷ The stylised fact that those dispatched member are the amoeba leaders is a feedback we obtained after the speech made in front of a hundreds of managers. Because there are more than a few managers who gave us this feedback at the occasion, we could not record who they are precisely.

variant of cost leadership strategy, in Porter's (1980) typology, with delegated power to allocate personnel at a lower management level. The combination of cost leadership strategy and organisational structure that is aligned with the strategy may push lower managers to improve the efficiency and control labour costs by dispatching abundant labour to other groups. In the same vein, the second case may be interpreted as a 'prospector' strategy that continually searches for market opportunity (Miles & Snow, 1978). The prospector strategy requires an accompanied 'build' strategy (Gupta & Govindarajan, 1984) to increase market share and to improve competitive position, which in turn makes it necessary to have aligned organisational structure at a lower management level from a rational perspective on strategy.

In our case, there is not such an explicit, deliberate strategy or organisational structure intentionally aligned with the particular strategy. Instead of a deliberate strategy and formal organisational structure, we observed a persistent emphasis on core values and the ubiquitous existence of manifold management accounting practices throughout the organisation. The content of strategy and associated practices are variable and transitory; the space is left open for the lower managers, i.e., amoeba leaders, to demonstrate their creativity, while the core values and the responsibility accounting system are universal and persistent.

Some amoeba leaders show that they are capable of creatively coping with the recognised dilemmas; others are not. Recognised dilemmas are sometimes coped with at the level of amoebas. In our case, the dilemmas between efficiency improvements and group harmony is solved both or either by autonomously allocating labour among amoebas and/or encouraging other amoebas to expand business volume. In the next section, we will further investigate the implication of this process on the organisational capabilities.

Dynamic Tensions between Romanticism and Realism

Another source of dynamic tensions originates from the potential contradictions 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 by numbers. Romanticism means that they should not be content with what they are doing now, while realism reminds them of the current state of nature 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. There is a potential trade-off between aggressiveness and feasibility of the target. The more aggressive, the less feasible targets are *ceteris paribus*. The potential contradiction between romanticism and realism in the core values is recognised as a concrete problem to cope with in practice when a feasible plan to attain a stretch target is difficult to draw up and supporting data for the plan is not readily available.

Coping with Dilemmas between Romanticism and Realism

Confronted with the recognised dilemmas between stretched targets and feasible plans, some amoeba leaders creatively cope with the situation. An aggressive target stirs 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 that will convince their superior and subordinates. One of the means of exploring possibilities is to expand the span of search activities for valuable information. Beyond the sphere of daily interactions, amoeba leaders seek experience and knowledge of others when faced with this recognised dilemmas.

This exploration consequently intensifies both the horizontal and vertical communications within the company, while at the same time it may 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 with whom they may not have

met frequently. This may be an interactive use of accounting control by those who are controlled.

As part of this research we conducted a series of interviews at an independent company, SD Corporation, which has introduced the AMS in consultation with KCCS. A manufacturing manager commented that he had had more frequent communication with amoeba leaders at other divisions, 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)

The recognised dilemmas between romanticism and realism expands the scope of interaction at SD Corporation. He added as follows:

The tendency is more prominent among young workers and part-timers. During the monthly planning phase, they are making more contacts 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 occurred. (personal communication, 19 January 2006)

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

The inherent difficulty of achieving an aggressive target sometimes remains intact however hard amoeba leaders may try to devise detailed plans. The fundamental fact that the high-stretch target is difficult to achieve may remain true. In such a situation, the system of accountability that creates survival conditions for amoebas may result in blaming amoeba leaders for not being able to achieve the target that is inherently difficult to achieve. If amoeba leaders recognize that they will be blamed for not achieving the difficult target, they may be discouraged to set high targets in the first place.

At Kyocera, the performance result is analysed and discussed vigorously with supervisors and the members of the amoeba. However, more often than not, the focus of the discussion is 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 scrutinized, simply succeeding or failing to meet the target is not usually sanctioned at Kyocera. It is the reason why such a performance has resulted that is more important than the performance result itself. The divisional manager commented as follows:

Quantitative number is the basics [for the performance evaluation], but it is often the case that something accidental happens, such as emerging 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 set 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 as probabilistic and as being subjected to uncertainty. With this mutual understanding about the nature of planning and the performance result, amoeba leaders are forced to be reflective on their planning. Under these

practices, amoeba leaders expect that they will not be blamed for failing to achieve the target by itself, but that they will be scrutinized about the appropriateness of their planning *ex post*. This assumed attitude, which is biased towards the future in a sense, that emphasizes planning rather than results is often observed at Kyocera and other companies that have introduced the AMS.

In this case, expanding the scope of search activities and assuming an attitude that emphasizes planning have emerged in the daily operational processes at the amoeba level. As was the case in the previous episode, confronted with dilemmas that originate from potential contradictions within the core values, and without the help of a deliberate strategy, strategically implicated operational activities emerged out of efforts to cope with such recognised dilemmas.

9. Discussions

Multi-layered and Dynamic View of Dynamic tensions

The initial conceptualisation of dynamic tension by Simons (1995) inspired his followers to investigate how MCS creates countervailing forces, forces that encourages opportunistic innovations on one hand and forces that affirm predictable goal achievement, and to understand how these countervailing forces are balanced (Mundy, 2010). Our case analysis furthers this line of investigation in the following two directions: multi-layered view of dynamic tensions and dialectic view of how dynamic tensions in action.

Our case analysis provides multi-layered view of dynamic tensions by explaining how responsibility accounting system is used both as a belief system and a diagnostic control system at the first layer and then at the second layer how the responsibility accounting system as a belief system creates particular dynamic tensions at localities. The first layer illustrates dynamic tensions between the belief system that encourages innovative experiments and the

diagnostic control system that affirms predictable goal achievement in a manner similar to Simons' seminal arguments (Simons, 1995).

At the second layer of the dynamic tensions at the case site, we found that particular set of dynamic tensions originates in the contents of the core values of the company that are potential contradictory to each other. The responsibility accounting system, along with philosophy educational training, communicates competing values within the core values of the company. The responsibility accounting system as a belief system provides fundamental values with which organisational members make sense of the situation they are in and speculate the meaning and the legitimacy of possible actions that they may take within the PDCA cycle. With this role as a belief system, the responsibility accounting system communicates competing values that are potentially contradictory to each other at our cases. Dynamic tension results as those potentially contradictory values pulls organisational members in different directions. The competing values that are communicated through the organisation by the responsibility accounting system are found to be a source of particular dynamic tensions at localities. The second layer of the dynamic tensions tells us how contents that are communicated by belief systems create dynamic tensions.

Our case analysis provides dialectic view of the functioning of dynamic tensions by explaining how countervailing forces of MCS creates concrete problems that managers face and challenge. The functioning of dynamic tensions is dialectic as concrete problems posed as dilemmas induces managers to creatively solve the problem, not by striking the right balance between the two forces or finding out an equilibrium point in trade-offs, but by creating something new that did not exist before.

Two exemplary contradictions and the resulting creative practices are presented to show that the dialectic process of the dynamic tensions. The first case demonstrates the way in which potential contradictions between two universal values, familism and marketism, are

recognised as dilemmas between improved efficiency and the temptation of job-cutting. Distributed practical wisdom (Tsoukas, 1996; Nonaka & Toyama, 2007) sometimes emerges at the lower management level, which results in exercising creative practices without a prescribed formula, such as 'autonomous labour allocation' and 'expanding span of influence', which materialise 'speed linkage effects'.

The second case is centred on potential contradictions between two universal values: romanticism and realism in the core values. The potential contradiction between romanticism and realism is recognised as concrete dilemmas between setting stretch targets and devising detailed feasible plans to attain the targets. Distributed practical wisdom is demonstrated again in the processes of coping with the recognised dilemmas, which resulted in what we termed 'expanding span of search' and 'bias toward the future'.

Those two cases indicate that business reality is in the daily operations of each amoeba. It is not only top managers but also shop floor workers who confront the business environment surrounding the company. Competitive strategy is not something that is formulated by the distant top managers, but rather emerges autonomously through their daily activities coping with dilemmas that are made visible by the responsibility accounting system. They do not run on the rails laid by distant managers, nor do they simply follow the prescriptions. While the belief system communicate competing values that every organisational members should attend to, each amoeba leader strives to find ways to have those competing values work together. When those competing values take a shape of concrete dilemmas at the locality because of the changing internal and external environments, innovative activities emerge through amoeba leaders' experimentations which in turn create conditions in which the recognised dilemmas are no longer incompatible to each other. Our case analysis illustrates the emergent dialectic process of dynamic tensions.

Marginson (2002) and Henri (2006) implicitly, and Mundy (2010) explicitly, assume that a belief system is a coherent, monolithic entity. This implicit assumption was reflected in their theoretical model where tensions are generated and balanced between a belief system and other MCS. Our findings show that sources of contradiction are embedded within the core values, while the responsibility accounting system gives concrete shape to abstract contradictions. Thus, our findings suggest that sources of dynamic tensions exist not only between MCS, but within the belief system.

9. Concluding Remarks

In our analysis empirical materials, we are led to appreciate the generative power of core values, not because of their internal consistency, but because of potential contradictions inherent to them. The core values constrain the amoeba's attention onto a certain set of concrete dilemmas which are derivative of potential contradictions. It is contradictions that are framed as important issues to be dealt with *a priori* by the core values and the responsibility accounting systems. The contradictions are enacted by management accounting practices so that they become recognised dilemmas at localities. The above episodes illustrate how amoeba leaders cope with recognised dilemmas that are derived from potential contradictions in the core values. They demonstrate that emergent practices are generated when amoeba leaders exercise their praxis when confronted and cope with the recognised dilemmas. The potential contradictions and recognised dilemmas are not barriers but sources of creative activities in these instances.

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Table 1

Interview List

Date	Interviewees	Length(h)
May-04	KCCS, divisional manager	2
Jul-04	KCCS, divisional manager, consultant	2
Aug-04	KCCS, divisional manager, consultant	3
Sep-04	KCCS, divisional manager, consultant	2
	Kyocera, LTTC division sub-section leader	2
	Kyocera, LTTC division section leader	2
	Kyocera, management planning division section leader	2
Oct-04	Kyocera, administrative division manager and section leader, CRC division section leaders	3
	Kyocera, institute of management vice manager, section leader, and section sub-leader	2
	Kyocera, management planning division manager	2
Fall 2004	KCCS, seminar series (observation)	40
Jun-05	KCCS, consultant	2
	SRT corporation president, production head office manager	2
Sep-05	Kyocera executive advisor, and KCCS divisional manager	2
Nov-05	KCCS consultant	2
Jan-06	SD corporation production management division group-leader	2
	SD corporation president	2
	SD corporation production leader	1
	SD corporation planning office manager	2
Nov-06	SRT corporation president, production head office manager	2
Feb-06	Kyocera ex-executive	2
Jul-06	KCCS, divisional manager	2
	KCCS, divisional manager	2
Jun-06	Kyocera, networking event (observation)	6
May-07	KCCS, president, vice president (former divisional manager), consultant	2
Oct-07	KCCS, consultant	2
Nov-07	KCCS, vice president (former divisional manager), consultant	2
Dec-07	KCCS consultant	2
Feb-08	Kyocera, factory manager	2
	Kyocera, factory morning meeting (observation)	1
	Kyocera, production division leader	2
	Kyocera, production division leader	2
Apr-08	Kyocera Mita, president, executive	3

Table 2

Philosophy Education Program at the AMS at 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.

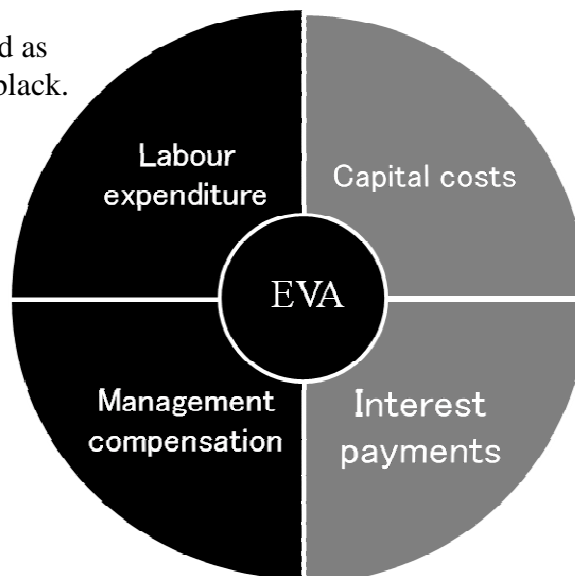


Figure 1. Structure of Workers' Profit