

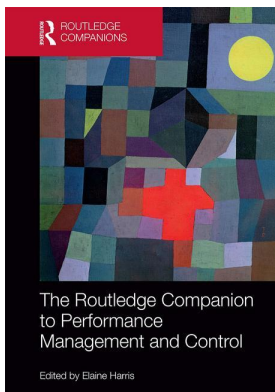
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Kyocera's use of amoeba management as a performance management system

Why it works?

Ralph W. Adler

Introduction

Management control systems, or what the literature is increasingly calling performance management systems, comprise formal and informal mechanisms, processes, systems, and networks that help senior managers implement their organizations' strategies (Anthony, 1956) and, at least according to the performance management literature's more recent conceptualizations, assist with the formulation and control of strategy itself (Mintzberg, 1978; Merchant and Otley, 2007). As noted by Ferreira and Otley (2009), performance management systems play a crucial role in communicating key objectives and goals set by the organization's senior managers, helping employees throughout the organization manage performance (by instituting appropriate ongoing systems of planning, measurement, control, and reward), and supporting organizational programmes of learning and change.

Performance management is underpinned by the functioning of a number of distinct, but necessarily interconnected, organizational systems, including strategic planning systems, human resource planning systems, materials requirement planning systems, employee reward systems, and accounting information systems. As shown by Otley (1999), the aims of performance management cannot be achieved through reliance on any single organizational system or management approach alone. While it is true that Otley's (1999) conclusion derives from his studying a limited number of high-profile management practices – budgeting, economic value added, and the balanced scorecard – it is fair to say that even if he had included something like enterprise resource planning (ERP), which was quite new at the time he wrote his paper, his overall conclusion would not have changed. ERP might score strongly on communicating and tracking key performance measures and targets, but it would score weakly on facilitating an employee reward and incentive system that is free of distorted and dysfunctional behavioural effects.

Amoeba management is a relatively new (at least in the sense of it being discussed in English language academic journals) management technique. Both amoeba management's relative newness and its lack of presence beyond Japan would have contributed to its

non-inclusion in Otley's (1999) study. The chapter argues, however, that amoeba management embodies all the central tenets of a comprehensive performance management system. As a performance management system, amoeba management appears especially adept at supporting the *simultaneous* pursuit of organizational efficiency and flexibility, a situation that Ahrens and Chapman (2004) highlight in their field study of a UK restaurant chain. For some organizations, a hybrid strategy that embodies a conservative/cost-focused strategic orientation and a flexible/entrepreneurially focused orientation is required. Accordingly, this chapter's contents are especially well suited for organizations that pursue a hybrid strategy, what some call a mixed-emphasis strategy (Campbell-Hunt, 2000) and others a confrontation strategy (Cooper, 1995).

The chapter is organized in the following manner. In the next section, a very brief history of Kyocera and the fundamental features of its amoeba management system are provided. The third section identifies and examines the factors behind amoeba management's success. These factors include amoeba management (1) representing the right organizational structure for the particular organizational strategy being pursued, (2) possessing the right balance of enabling and constraining factors, and (3) encouraging the selection of the right set of people to accept the responsibilities and challenges that characterize Kyocera's highly empowered work environment. The final section offers the chapter's conclusions, examining such issues as amoeba management's relevance for other firms operating in different industries and national cultures, as well as identifying future avenues of academic research.

Brief history of Kyocera and amoeba management

Kyocera Corporation is a very large and very successful Japanese multinational. The company began operations in 1959 as a producer of ceramic insulators for television sets. Today, it makes a wide range of ceramic and printing-related devices, with products ranging from automotive and semiconductor components to office equipment and mobile phones, and from dental implants to solar panels.

Kyocera operates on six continents, and as part of the Kyocera Group, it has annual sales of over €11 billion and a total workforce of over 68,000 employees. For its latest fiscal year end of March 2015, the company reported a net income of €860 million, which is a little under 8 per cent of net sales. This 8 per cent net income to net sales ratio is slightly on the low side of its long-run average. As further testament to Kyocera's outstanding financial performance, the company has reported a profit in every year of its 56 years of operations. Kyocera's financial performance clearly meets Michael Porter's definition of sustained success: above average rate of return (Porter, 1980: 35) sustained over a period of years (Porter, 1985: 11).

Kyocera's success is often attributed to its adoption of amoeba management. The company's managers certainly believe this, as the discussion later in this chapter will reveal. In addition, various organizational scholars, who customarily describe Kyocera's amoeba management as a showcase of exemplary business practice, also credit amoeba management for Kyocera's success (Kotter and Rothbard, 1991; Cooper, 1994; Miya, 1998; Mayo, Masako, and Mayuka, 2008).

Amoeba management was designed by and introduced into Kyocera by the company's founder Dr Kazuo Inamori. A central objective of amoeba management is the empowerment of employees. There were two main reasons Inamori wanted to promote employee empowerment. The first was his desire "to create an organization where every individual's ability could be utilized to the fullest" (Inamori, 1999: 57). The second reason was his hope that employee empowerment could be used as a way to overcome what he saw as his lack

of preparation for his role as CEO. His previous business experience consisted of working 4 years as an electrical engineer at Shofu, a ceramics manufacturer that now specializes in dental products. During his early days as Kyocera's CEO, Inamori described feelings of intense loneliness and isolation. He lamented the fact that there was no one to mentor him, no one to share his/her business experience, provide management advice, or boost his confidence. Accordingly, he used amoeba management to create the business partners he so desperately craved.

Amoeba management uses a profit centre approach to structure a company into small, fast-responding, customer-focused, entrepreneurially oriented business units operating like independent companies that share a united purpose, i.e. the parent organization's goals and objectives. The amoebas are intended to act in coordinated independence from each other. The goal is to empower each amoeba to the point that each is akin to an independent company, with each seeking to manage its own profitability.

The use of the word "amoeba" is meant to capture the concept of an entity at its smallest, most elemental level, as well as to describe its life-like capability to "multiply and change shape in response to the environment" (Inamori, 1999: 57). In other words, amoeba management is intended to offer a spontaneous, homeostatic response to a business world that features rapid, dynamic change.

Amoebas typically consist of 5–50 employees. Within Kyocera, there are about 3,000 amoebas operating at any given time. The exact number fluctuates as individual amoebas divide, merge, and dissolve. All the production and sales departments are treated as amoebas with profit-oriented goals. Meanwhile, such departments as distribution, quality control, and research and development are treated as support departments and lack the same profit orientations as the production and sales amoebas.

Each amoeba is accountable for a meaningful organizational activity, an activity that is meant to mirror what currently exists (or could exist) in the outside, competitive environment. The amoeba leader and his/her employees are encouraged to act like the owner of a small, independent company. Accordingly, the manager is accountable for a wide range of activities, including the regular ongoing daily activities of purchasing raw materials and hiring and scheduling labour, as well as the more strategic activities of new product and new market development. Ultimately, the amoeba leader is meant to be accountable for managing his/her unit's profitability, and in the process, he/she becomes not just a valued and respected managerial decision maker, but also part of a network of *de facto* business partners.

Why amoeba management works at Kyocera

In seeking to explain why amoeba management works at Kyocera, a series of 21 semi-structured interviews were held with a variety of senior managers, plant managers, and amoeba leaders at various Kyocera locations, including its Kyoto headquarters, its Tokyo offices, a manufacturing plant in Kagoshima, Japan, and a manufacturing plant in San Diego, USA. The typical interview lasted about 2 hours, although some interviews well exceeded this time and lasted closer to 3 hours. Half of the interviews were attended by both researchers. One of the researchers is bilingual in English and Japanese, while the other relied upon a translator for the interviews conducted in Japanese. When permission was granted, the interviews were taped for later transcription and comparison with the researcher's set of field notes. A copy of the interview questions is included as Appendix 3.1.

The interview data were further complemented by various archival data, including financial statements and internal performance reports. This archival data offered opportunities

to direct interview questions and facilitate further comments and clarifications during the course of the interviews. It also served to help corroborate the interview data.

In addition to the interviews and archival data, various meetings involving amoeba leaders, department heads, and divisional heads, as well as a monthly plant-wide morning assembly, were attended. A translator was available to offer real-time translation of the meetings attended in Japan.

The researcher provided opportunities for the interviewed managers to read and correct his field notes. Emails from the managers confirmed the field notes' accuracy. A summary copy of a working draft of the research was provided to Kyocera employees who had expressed an interest in receiving it. This allowed comments, especially in the way of corrections to any factual inaccuracies, to be received and corrections made. The protocols used to collect the data, including the procedures used to corroborate the field notes and allow for the correction of any factual inaccuracies, provide confidence in the data's validity and reliability.

The interviews and meetings revealed insights into two primary factors that underpin amoeba management's success at Kyocera. First, the use of a highly organic and horizontally differentiated organizational structure is the correct structure for the company's competitive environment. Second, Kyocera's amoeba management system features a number of integrating mechanisms that help ensure that the actions of the individual amoebas are coordinated and are supportive of the organization's overall goals and objectives. Each of these two factors is discussed more fully in the following.

Organizational structure and integrating mechanisms

Kyocera operates in an intensely competitive and dynamic environment. Since its inception, the company has been confronted with the challenge of competing in a technologically fast-changing environment, one that is characterized by quickly evolving technology and short product life cycles. As an example, the semiconductor industry's constant drive to miniaturize its products – whether these products are computers, printers, or mobile phones – means that the subcomponents Kyocera supplies to the semiconductor manufacturers must undergo parallel reductions in size. Capacitors that once were the size of a domino must now be a fraction of the size of a thumbnail, i.e. $.6 \text{ mm} \times .3 \text{ mm} \times .3 \text{ mm}$.

In addition to the quickly changing product and manufacturing technology, Kyocera faces fierce competition. Each market that Kyocera operates in – whether it is the semiconductor industry, the automotive parts industry, the medical devices industry, etc. – features multiple competitors. Together with Kyocera, these competitors share a very limited and crowded competitive space, which in turn sees them all competing head to head on price, quality, and delivery.

The organizational sociology literature reveals that external environments characterized by high environmental uncertainty (which captures the environment faced by Kyocera) require organizations to adopt organic (Burns and Stalker, 1961) and more differentiated organizational structures (Lawrence and Lorsch, 1967). As described by Burns and Stalker (1961), organic structures are notable for their flexibility and adaptability. Organizations achieve these structures through the multiskilling of employees, the minimizing of management layers, the use of limited direct supervision, and the decentralization of decision-making. As will be discussed more fully in the following, these features are a centrepiece of amoeba management.

Lawrence and Lorsch (1967) observed the need for complex environments (i.e. ones featuring high competition, unpredictability, and/or turbulence) to be matched by complex

organizational structures. In particular, they found that when faced with a complex environment, an organization, if it wants to succeed, must respond by dividing itself into separate functions (e.g. sales, production, and research and development). This process of organizational structuring is called horizontal differentiation. The need for horizontal differentiation is predicated on the different tasks, interpersonal skills, time perspectives, and type and extent of formalization demanded from each of the varied functions.

As Lawrence and Lorsch (1967) proceed to point out, the use of horizontal differentiation to meet the demands of a complex external environment is a necessary, but not a sufficient, organizational response. Organizations featuring greater horizontal differentiation are inevitably characterized by greater amounts of conflict than their less horizontally differentiated counterparts. Therefore, when using horizontal differentiation, senior managers need to ensure the presence of adequate conflict-resolving mechanisms.

To help manage conflict and promote organizational coherence and coordination, Lawrence and Lorsch (1967) encourage the use of what they term integrating mechanisms. Some typical examples are organizational roles dedicated to facilitating and sharing information between horizontally differentiated units; the operation of organizational systems and processes that require joint, interdepartmental participation – such as a negotiated transfer price system; and the use of interdepartmental meetings and forums. Ultimately, integrating mechanisms are intended to promote “collaboration” and “unity of effort” among the organization’s horizontally differentiated units (Lawrence and Lorsch, 1967: 47). As described in the following, the use of differentiation and integration is vital to the effective operation of Kyocera’s amoeba management system.

Integrating mechanisms and Simons’ levers of control

Unified, common purpose of action is needed for an organization to achieve its goals and objectives. Simple organizations, especially ones that are small and have centralized structures, will have few challenges to maintaining coordinated organizational action. In particular, the small scale of operations and centralized organizational structure, assuming that this structure is appropriate for the type of environment, will mean that senior managers will be constantly aware of and in control of their employees’ performance. It is during situations when the organization’s size enlarges and/or its environment becomes complex that senior managers will need to adopt organizational structures featuring horizontal differentiation and, as a consequence, decide what organizational processes and systems to employ for ensuring unity of effort.

The idea of ensuring unity of effort is the focus of scholars who work in the field of performance management. Simons (1995: 5) refers to performance management as “the informal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities”. Simons (1995) proceeds to describe senior management’s role as deciding the right emphasis to place on what he calls the “four levers of control”. He labels the four levers belief, boundary, diagnostic, and interactive systems.

Belief systems comprise the inherent core values of an organization. These values are often a product of how senior managers define their particular organization’s mission and view the relationships among its key stakeholders. An organization’s values manifest themselves in the folklore, stories, symbols, and attitudes that are routinely expressed by the organization’s members.

Boundary systems are commonly referred to as the “rules of the game”. While Simons (1995) suggests that these rules of the game are best expressed in the negative, such as a

statement like “the company will not source its inputs from sweatshops”, these negative expressions can be readily seen as the flip side of positive expressions. For instance, the aforesaid negative expression can be reworded as “the company will only source its inputs from suppliers whose work practices include internationally acceptable standards of workers’ rights and safeguards of employee health and safety”. Accordingly, what most matters for boundary systems, especially if the organization seeks to promote employee initiative and creativity, is not whether the boundaries are negatively or positively stated, but that only the minimum number and most crucial set of boundaries are imposed. To do otherwise will constrain employee action and creativity.

Diagnostic systems are the set of measures that an organization routinely collects for the purpose of ensuring that the organization is on track for doing what it needs to do. The measures are meant to provide managers a quick assessment of how their organization is performing, with this performance generally being relative to a set of predetermined standards or benchmarks. Assuming that the measures indicate performance is near the benchmark or within certain prescribed parameters, then the employee needs to take no further action. It is only when the measures signify some type of abnormal performance that employee investigation and action is required.

Interactive systems consist of organizational procedures and processes that promote employee conversation and debate about the organizational challenges that are likely to significantly impact the organization’s strategy and/or the implementation of it. As Simons notes, interactive systems cover the kinds of challenges that are likely to give managers sleepless nights. Managers and their employees must remain vigilant to these environmental opportunities and threats. They do so by ensuring that their organization, through the use of relevant surveillance systems, regularly and frequently gathers data about the direction and movement of these key challenges, and subsequently ensuring that the data serve to situate and motivate employee thinking and action.

In the specific case of Kyocera, its belief system is used to maintain boundaries on managerial activity. Accordingly, for the purpose of this chapter, Simons’ three levers of beliefs, diagnostic and interactive controls are focused on.

Complex organizations, which are defined as organizations that have adopted horizontal differentiation to meet the demands of their external environment’s high competition, unpredictability and/or turbulence, will require greater amounts of integration. If these organizations do not ensure integration, they will put their effectiveness at risk. In terms of the management control model presented by Simons’ levers of control, senior managers of these complex organizations will find that they must develop a greater total mix of belief, diagnostic and interactive controls than senior managers of simple organizations. Generally speaking, this greater set of control will derive from the belief and diagnostic levers of control. Due to the intensive and time-consuming nature of interactive control, Simons argues that only the most critical imperatives should be made interactive. In other words, interactive control conforms to the features of a zero-sum phenomenon, whereby the addition of a further strategic imperative can only be achieved by jettisoning an existing imperative. This is the reason that complex organizations, which have substantial integration requirements, will feature large and extensive belief and diagnostic control systems.

For a company like Kyocera, its large size and highly competitive and turbulent environment mean that its adoption of an organic structure and use of horizontal differentiation are appropriate. Of course, Kyocera has chosen to operate a far from typical horizontally differentiated structure. Kyocera’s use of horizontal differentiation featuring a host of organically structured amoebas in a near-constant state of interaction, with each amoeba emphasizing a

profit motive as well as differentiated orientations and tasks, calls for a very strong presence of integrating systems. Without these integrating structures, Kyocera would likely disintegrate into a sea of chaos. The next three subsections of this chapter discuss the specific types of interactive, diagnostic and belief control systems that operate at Kyocera.

Interactive systems at Kyocera

The interviews with Kyocera's senior management identified four strategic imperatives. Three of the imperatives relate to how it competes against other companies in its industries. These three competitive imperatives are product price, quality, and timely delivery. Competing across all three of these product dimensions may sound particularly challenging, but companies like Kyocera are finding that they have no choice. Exacerbated by the consequences of today's fragile global economic environment, which is partly a function of national economies that are still working to recover from the Global Financial Crisis and partly the recent bursting of China's speculative bubble, Kyocera and its competitors are forever scrambling to maintain their customer bases. In the process, customers have increasingly come to learn that they are in a relatively strong bargaining position and can demand low prices, high quality, and quick deliveries.

The fourth strategic imperative revealed during the interviews relates to the ongoing inculcation of the company's core values to new and existing employees. Kyocera has high expectations of its employees, which is well captured by the company's corporate motto: *Kei Ten Ai Jin*. The literal translation of this motto is "respect the divine and love people". In practice, the motto is about the pursuit of meaning in one's life, which includes the devotion to one's work.

Together these four strategic imperatives dominate the daily conversations of management and employees. Much of the daily discourse is motivated and supported by the extensive set of meetings the company operates. For instance, at Kyocera's Kagoshima and San Diego manufacturing plants, formal meetings are a daily occurrence for every employee. A senior manager at the San Diego plant estimated that workers below the level of an amoeba leader, who were termed machine operators, had an average of 30 minutes of meetings per day. Meeting attendance was mandatory. Meanwhile, amoeba leaders and manufacturing VPs had about 45–60 minutes per day of formally scheduled meetings.

Formal meetings are used at the Kagoshima and San Diego manufacturing plants to present the upcoming month's budget (or what the company likes to call its monthly plan), compare the monthly plan to actual results, discuss the previous day's performance, brainstorm ideas for continuous improvement, and promote customer service. Invariably these meetings involve a cross section of employees from across product divisions, the sales division, and such support departments as distribution, quality control, and research and development.

Together these various meetings form an intricate web of internal communication. Hiromoto (2005) uses the term micro-macro loops (MMLs) to describe the interactively cycling information flows. In particular, he views the MMLs as Kyocera's critical means of ensuring the receipt and dissemination of information about organizational values, philosophy, and performance throughout the organization (Hiromoto, 2007: 98–102).

Diagnostic systems at Kyocera

The idea behind amoeba management is to empower workers to the point that they become independent owners and ultimately interconnected business partners of the organization.

One San Diego manager characterized amoeba management as “management by all”. While this system of “management by all” has the advantage of what another manager saw as “bring[ing] everyone closer to the customer”, it comes at a cost. In particular, Kyocera’s workers, though possessing a good grasp of and familiarity with the raw production and sales data, do not necessarily possess some of the analytical skills commonly associated with decision makers. The skills gap is especially evident in their knowledge of financial measurement and evaluation. Inamori understands this limitation and has been willing to trade-off his workers’ lower levels of financial literacy for their higher levels of work motivation.

When he first began designing his amoeba management system, Inamori sought to create an accounting and information system that was simple and easily understood. His beginning premise was that it should be patterned on the simplicity of the information a food stall seller would need. Accordingly, Inamori conceived a cash-basis accounting system, whereby the need for calculating inventories and accruals was avoided. Acting like independent companies, the amoebas negotiated transfer prices between themselves. Selling amoebas reflected revenues when the product shipped to another amoeba or an outside customer, while purchasing amoebas recorded an expense when product was shipped to it.¹ Such an uncomplicated system, believed Inamori, would allow the loosely coupled amoebas to readily manage their individual profitabilities.

When calculating the profit of an amoeba, Inamori deliberately chose to leave out the amoeba’s labour costs. The labour expense-omitted profit figure was called hourly efficiency. Dividing the hourly efficiency by the amoeba’s total number of labour hours produces a ratio that can be used as an index for evaluating any given amoeba’s or combination of amoebas’ performance. These hourly efficiency measures are captured in what are termed “per hour profit margin charts”, which are indicative of dashboard indicators and ultimately diagnostic control. Table 3.1 provides an example of a generic hourly efficiency report.

Kyocera’s accounting and information system features no such things as variance analysis, economic value added, or even customer profitability analysis. In fact, as one manager proudly reported, an amoeba in San Diego was divided into smaller amoebas, with

Table 3.1 Hourly efficiency report illustration

Gross production ¹	6,500,000 (\$)
Production outside	4,000,000 (\$)
Total internal sales	2,500,000 (\$)
Total internal purchases ²	2,200,000 (\$)
Net production	4,300,000 (\$)
Deductions	2,400,000 (\$)
Added value ³	1,900,000 (\$)
Total working hours	35,000 (hours)
Hourly efficiency this month ⁴	54.28 (\$)
Production per hour	122.85 (\$)

Source: Kazuo Inamori’s official website at: <http://global.kyocera.com/inamori/management/amoeba/system.html> on 8 October 2015.

1 Gross production is the sum of production outside and internal sales.

2 Internal purchases are subtracted from gross production to calculate net production.

3 Added value is the difference between net production and deductions. These deductions include all expenses other than amoeba labour costs.

4 Hourly efficiency is calculated as added value divided by total working hours, and production per hour is the quotient obtained by dividing the total working hours into net production.

each resulting new amoeba being associated with production for a unique customer. This reorganization, reported the manager, meant that information could be obtained on the relative profitability of each customer. The idea that an amended accounting system could provide customer profitability information without the need for a structural change was seen as irrelevant. It was apparently the company's intent that costs and revenues should be simple and easily observable by the amoeba unit, rather than the product of management accounting alchemy.

Amoeba management is especially well suited to fast-paced, dynamic markets. As Inamori (2007) notes, under such environments, it is essential "to flexibly address these [environmental] changes and to make preemptive moves". For example, if the market price for the company's end product falls, then the amoeba management system is meant to create what the literature defines as a "reflexive", "spontaneous" reaction to the prices the company's amoebas charge one another. Of course, the changes in pricing are likely to also be accompanied by an equally "reflexive" and "spontaneous" change to the respective amoebas' production levels. It is for this reason that the sales order backlog data become a particularly important indicator of performance and management action. The sales order backlog provides essential data for developing future sales and production plans. Accordingly, sales order backlog becomes another important dashboard indicator that is used for diagnostic control.

Belief systems at Kyocera

Kyocera's amoeba management system is predicated upon and enabled by a set of powerful organizational values. In fact, these values form the bulk of Kyocera's set of integrating mechanisms. As previously noted, due to senior management time constraints, only the most critical success factors can be made interactive. Accordingly, interactive control at such a highly differentiated and decentralized company as Kyocera will fall well short of providing the integration required. Furthermore, because the accounting system has to be simple and easily understood by workers throughout the company, many of whom have only rudimentary financial skills, Kyocera's diagnostic system, even in combination with its interactive system, will never provide the level of integration needed. Instead, the most substantial component of Kyocera's integration comes from its belief system.

Kyocera's belief system is a joint product of Japan's national culture and, even more importantly, its founder, Inamori. While the influence of the national culture is more prevalent in Kyocera's Japanese operations, several fundamental traits of the Japanese culture also feature at its San Diego plant. For example, the willingness to work long hours is well engrained among San Diego employees. When asked to use various adjectives to describe the San Diego culture, one of the senior managers said "exhausting". He proceeded to say that all salaried employees worked very long days. The average engineer worked 50–60 hours per week, while he estimated that the average manager worked between 60 and 70 hours per week.

Japanese culture is notable for its high collectivity, whereby people are more willing to put the needs of their collective group ahead of any of their own personal needs (Hofstede, 1991). While US national culture is often described as individualistic, or the opposite of collective, the San Diego plant's employee selection policies ensure that its new recruits are more likely to embody the collectivist mindset of Japanese workers than the individualistic thinking of US workers. As one of the San Diego managers stated, the employee selection process includes assessing a prospective employee's ability to embrace Kyocera's philosophy of "humility, hard work, and selfless" attention to the customers' needs (whether these

customers be internal or external). Accordingly, the collective orientation of the Japanese workers, which is often represented as the desire to “live up to the expectations of my family, friends, and society”, appears to be similarly evidenced in the employees selected to work at Kyocera’s San Diego plant. The collective orientation helps to ensure that the amoebas are working for the greater good of their company, and not just for their own self-interest.

Japanese workers’ conceptions of what work is serve as a further salutary means of ensuring that amoebas act in coordinated fashion and not out of selfishness. Whereas it has been noted that Americans see work as a disutility, something that has to be done to acquire leisure, Japanese workers view work as a valued end in itself. In particular, as Sullivan (1992: 71) pointed out, for the Japanese, “work is what one does if one is a good person”. The interviews with San Diego employees, as well as the worker behaviours revealed during the various meetings and assemblies attended by the researchers, tended to support Sullivan’s observations.

Kyocera’s Japanese workers therefore are more likely than their US counterparts to accept Akio Morita’s, the founder of Sony, description of work as a useful tool for ensuring that the interests of owners, managers, employees, and even society are achieved. Such an idea is captured in Kyocera’s mission statement, which states:

To provide opportunities for the material and intellectual growth of all employees, and through our joint effort, contribute to the advancement of society and mankind.

The presence of such an idealistic view of work helps promote amoeba unit cohesion and harmony, which is called in this chapter organizational integration. Perhaps the lesser presence of this integrating mechanism in the US subsidiary explains the San Diego plant’s slightly greater use of group-based worker incentives and rewards, which are seemingly being used to motivate or buy the harmonized, cooperative behaviour that occurs more naturally in Japan.

In addition to the role national culture plays in helping to promote amoeba cooperation and harmony, Kyocera’s history and, in particular, the background of its founder, Inamori, provide a further key influence. Inamori’s (1999) lack of managerial experience and low initial levels of confidence were fundamental drivers behind his quest to empower his employees and let them share in the responsibility of being an owner.

Inamori acutely understood that appointing people to management positions did not change the fact that his company sorely lacked management expertise. He further understood that there was no quick solution to obtaining this management expertise. Accordingly, soon after assuming his role as Kyocera’s CEO, Inamori came to the conclusion that the best way to operate his company was to base management decisions on whether they were the “right thing to do as a human being”, which Inamori (1995) further defined as the things that your parents and teachers taught you were right (p. 31). This, in turn, led him to adopt as the company’s corporate motto: *Kei Ten Ai Jin*, which translates into “respect the divine and love people”.

Kyocera’s corporate motto is a key factor behind the success of its amoeba management system. First, it helped the company, including the CEO and his amoeba managers to overcome their collective lack of management expertise. More specifically, the corporate motto provides a clear framework on which management decisions can be based. The second benefit of the corporate motto is that it helps to preclude the occurrence of selfish amoeba behaviour. In particular, the corporate motto serves to instil in its employees the values of being “unselfish and noble” (Inamori, 1995: 28), and this helps ensure that the loosely coupled, entrepreneurially inspired amoebas will act for the greater good of the company.

There are two further parts to Kyocera's belief system that enhance amoeba management's ability to ensure organizational integration and unity of purpose: high trust and a customer-oriented philosophy. The strong Japanese work ethic noted earlier coupled with amoeba management's commitment to the philosophy of total quality management (TQM) help underpin and make possible the high trust and customer-oriented philosophy. Of course, at Kyocera, this commitment to customers goes well beyond the typical TQM philosophy.

Unlike the common western view, whereby employee behaviour and motivation are seen as a nexus of *quid pro quo* relationships between the organization and its employees (see, for example, Bernard Bass and his concept of transactional leadership), amoeba management views worker motivation as the product of a person's inherent desire to know that he/she has contributed to the good of the company and, by so doing, has earned the respect and appreciation of his/her peers (Bass, 1985: 59). The belief that workers are naturally striving to produce their best and the organization's best performance creates an environment of full trust and, in the process, helps transform workers from being simply empowered employees to being the business partners that Inamori so deeply craved when he set out to develop his amoeba management system.

Without full trust in the capabilities and motivations of his employees, Inamori would never have been successful in creating and implementing an amoeba management system. He had to believe that his employees shared his sense of duty for making high-quality products, ones that customers respected and valued. A lack of trust or a misplaced sense of trust is inimical to the use of an amoeba management system. Accordingly, Inamori insisted that all relevant company information must be provided to all organizational units, from the most aggregated unit to the smallest amoeba, so that these leaders could make informed decisions and act as valued business partners. In return, he required his managers and amoeba leaders to be completely open and candid about their business performance, and that they could do so without fear of reprisal or punitive actions. Furthermore, when a problem occurred, employees were responsible for identifying what went wrong and devising a plan for remedial action.

A customer-oriented philosophy is a further characteristic of Kyocera's belief system and an integral part to supporting the operation of its amoeba management. Inamori (1999: 41) describes the need for amoeba employees to be their "customers' servants". According to Inamori (1999: 41), this means not accepting the role with reluctance but doing so willingly and graciously. The amoebas are encouraged to produce "crisp" products, or what Inamori (1999: 43) refers to as "cutting edge quality that reminds our customers of the crisp touch of freshly-printed paper money". By striving to be their customers' servants, remember that these customers can be either internal or external to the company, the amoebas will find that they need to work in harmonious coordination.

People and empowerment

Employee empowerment resides at the very core of amoeba management. According to the organizational behaviour literature, empowerment produces satisfied, motivated, and high-performing employees. However, as Hackman and Oldham (1980) have demonstrated, the organizational outcomes from job enrichment and employee empowerment are not always simple and straightforward. They find that on some occasions, empowerment succeeds, and on other occasions, it fails.

Hackman and Oldham (1980) argue that individuals can be characterized on a scale they call growth need strength (GNS). A high GNS score indicates an individual with a high need for a sense of personal accomplishment and development, and people with high GNS tend to

enjoy challenging tasks. Accordingly, they are not only accepting of the greater job responsibilities that are associated with a more empowered versus a less empowered work setting, but they actually thrive under such circumstances. People with low GNS dislike challenging tasks. They prefer work settings where someone else – generally their boss – plans, assigns, monitors, and evaluates their work. The practical implications of GNS are that empowerment works when employee GNS is high and fails when it is low.

Kyocera's managers, whether consciously or unconsciously, understand these implications. When recruiting, Kyocera selects employees for both their attitude and ability. Kyocera's reputation as a high-performing company means that it invariably attracts the most able job seekers. But managers at Kyocera are also keen to ensure that the individuals they hire have appropriate work attitudes. As stated by the plant manager at Kyocera's Kagoshima plant, job applicants are selected for their "intelligence, toughness, and hunger". The plant manager's further descriptions of what he meant by the words toughness and hunger revealed a striking similarity to Hackman and Oldham's high GNS employee.

Conclusion

Amoeba management works at Kyocera because it involves the right form of organizational structure, the right amount of performance management-derived organizational integration, and the right type of employees. Kyocera operates in an environment characterized by high competition and rapid technological change. Amoeba management represents a very shrewd way for successfully responding to this environment. Kyocera has matched a complex organizational structure to a complex environment. Due to the high, and even extreme, differentiation of its structure and decentralization of its decision-making, substantial integration is needed to maintain organizational coordination and success. Using Simons' model of management control, it was shown that this organizational integration is achieved through interactive, diagnostic, and belief systems of control. Belief systems proved to be the main control lever at Kyocera.

The use of amoeba management, as well as the role it plays as a performance management system, shares similarities with the performance management system observed by Ahrens and Chapman (2004) in their study of a UK restaurant chain. In particular, Ahrens and Chapman (2004) showed how a management control system could enhance the restaurant chain's effectiveness through a system of "enabled formalization", which allows formal structures and rules to operate without stripping away employee autonomy and responsibility. Kyocera's amoeba management system achieves a similar organizationally effective outcome through a performance management system – its amoeba management system – that showcases similar aspects of constraining and enabling characteristics. The amoeba management system calls for high employee empowerment, essentially encouraging the employees to act as the owners of their own independent business, while at the same time promoting shared, organizationally congruent behaviour through the operation of the company's compelling and forceful belief system.

The success of amoeba management is greatly dependent on the skill and attitude profile of its employees. Employee empowerment is at the heart of amoeba management. For this employee empowerment to succeed, employees must accept and even thrive on challenge. This fact explains why Kyocera includes in its recruitment criteria the need for employees to possess "intelligence, toughness, and hunger", with the last two criteria being especially well captured by Hackman and Oldham's concept of high GNS.

Whether amoeba management would be relevant to other organizations depends on a variety of factors, including the degree of competition faced and the complexity of the particular organization's internal and external environments. Of course, relevance is only one dimension that must be considered. The second dimension is whether the system can translate to the likely very different organizational cultures that exist at other organizations. For instance, can firms with cultures that are less collective/team-oriented than Kyocera be able to develop the belief systems needed to integrate the various amoebas? If Kyocera's San Diego plant is a suitable guide, it would appear that firms located outside Japan can successfully adopt amoeba management. To do so, however, may require the greater use of formalized systems, such as the use of performance measures and rewards, to motivate or buy the harmonized, cooperative behaviour that is required for amoeba management's success.

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Appendix 3.1

Interview Questions

- 1 What do you believe are the key order-winning criteria for Kyocera? In particular, what critical factors explain why a customer buys from Kyocera and not one of its competitors? Can you please rank the importance of the factors you have identified?
- 2 Do you believe that Kyocera's order-winning criteria, either the factors themselves or the ordering you have awarded them, are unique to the company or generic to the industry in which it operates? Assuming the criteria are unique, please contrast Kyocera's order-winning criteria with a major competitor's. If you believe that the order-winning criteria are generic, please discuss why you think this is the case.
- 3 What do you see as the main purpose(s) of amoeba management?
- 4 Please describe the structure of the amoeba management system at Kyocera. In this description, please discuss any company rules or policies relating to the formation of amoebas; the management of amoebas at their individual, group, and company levels (e.g. selection of amoeba heads, evaluation of amoebas and their managers, and replacement of amoeba heads); interactions between amoebas (e.g. the type and frequency of meetings, decisions about internal versus external sourcing, and amoeba dispute procedures); and disbanding of amoebas.
- 5 What do you believe are the amoeba management system's major strengths? What do you believe are the system's major weaknesses?
- 6 How does the amoeba management system differ from other organization's systems for controlling costs and stimulating innovation? Possible examples to use as points of comparison and contrast might be Kirin Brewery's use of profit centres and Higashimaru's price control system.
- 7 Some western academics believe that amoeba management is nothing more than a re-configuring of an organization into profit centres. How would you respond to such an interpretation?

- 8 What do you believe are the critical factors for amoeba management success? Please list what you believe to be the 3–5 most important factors. Please rank their importance.
- 9 Thinking about how amoeba management currently operates at your company, what one change would you most like to see take place?
- 10 Are you aware of any competitors that use amoeba management or a system like it? If so, what are the points of similarity and contrast between your system and your competitor's? If not, why do you believe that none of your competitors have yet to adopt amoeba management or a system like it?
- 11 Assuming an organization wants to adopt amoeba management, what particular traps and pitfalls should it be aware of? Also, what do you believe an organization can do to prevent or minimize these traps and pitfalls?
- 12 Can you think of any settings where amoeba management is more or less difficult to introduce? For example, do you believe that the success of amoeba management is dependent on industry (e.g. manufacturing versus service and private versus public), organizational strategy (e.g. low cost versus differentiation and first developer versus imitator), and/or geographic location (e.g. perhaps due to political, social, or economic factors)?
- 13 Are you aware of any adoptions of amoeba management outside Japan? If so, can you please comment on these?

Note

- 1 Since Kyocera operates a just-in-time (JIT) production system, the cash-basis accounting system would in all likelihood be similar to an accrual system.

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