

Please do not cite or quote without the expressed permission of the authors.

**Amoeba Management: Why it Works at Kyocera and
which other Firms Could Benefit from its Adoption – Part I**

Ralph W. Adler
Department of Accountancy
University of Otago
New Zealand
radler@business.otago.ac.nz

and

Toshiro Hiromoto
Graduate School of Commerce and Management
Hitotsubashi University
t.hiromoto@srv.cc.hit-u.ac.jp

Acknowledgements: The authors are grateful to employees throughout Kyocera for allowing access into their organization and their willingness to be interviewed.

Please do not cite or quote without the expressed permission of the authors.

Abstract

This paper is the first of two articles that explores the workings of amoeba management.

Kyocera, a Japanese manufacturer of ceramics and printing-related devices, first introduced amoeba management in the 1960s. On the surface, amoeba management appears very similar to a company's widespread use of profit centers / pseudo profit centers. Researchers, or at least those who publish in English-language business journals, invariably focus on the issue of organizational structuring, typically relying on highly descriptive business case studies to showcase the use of amoeba management at Kyocera. Missing from the literature has been any attempt to draw upon business theory to help understand how and why amoeba management's success is achieved. This first paper, which is Part 1 of a two-part series, draws on the fields of organizational sociology and organizational psychology to uncover and identify the implicit set of unifying and coordinating mechanisms that enables Kyocera's use of a highly, and what some might even call radically, decentralized organizational structure to succeed. The second paper explores which firms are most likely to benefit from amoeba management adoption and identifies the internal and external factors that are likely to promote or prevent its successful adoption.

Key words: Amoeba management, contingency theory, decentralized structures, organizational culture

Please do not cite or quote without the expressed permission of the authors.

Introduction

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 components to semiconductor components and from dental implants to solar panels.

Kyocera operates on six continents, and as part of the Kyocera Group has annual sales of over \$12 billion US dollars and a total workforce of nearly 60,000 employees. For its latest fiscal year end of March 2009, the company reported net income of \$320 million US dollars, which is about 3% of net sales. This ratio of net income to net sales, though relatively impressive in the current economic crisis, is small when compared with a typical year's ratio, which for Kyocera during the previous 10 years of operations has ranged between 5-15%. As further testament to Kyocera's outstanding financial performance, the company has reported a profit for every year of its 50 years of operations.

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 paper 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 (Mayo, Masako, and Mayuka, 2008; Cooper, 1995; Kotter and Rothbard, 1991; and Miya, 1998).

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

Please do not cite or quote without the expressed permission of the authors.

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 four 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 center 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. 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 manager and his/her employees are

Please do not cite or quote without the expressed permission of the authors.

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 labor, as well as the more strategic activities of new product and new market development. Ultimately, the amoeba manager is meant to be accountable for managing his/her unit's profitability, and in the process becomes not just a valued and respected managerial decision maker but part of a set of *de facto* business partners.

Why amoeba management works at Kyocera

In seeking to explain why amoeba management works at Kyocera, a series of 12 semi-structured interviews were held with a variety of senior managers, plant managers, and amoeba leaders at Kyocera. The typical interview lasted about two hours, although some interviews well exceeded this time and lasted closer to three 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. The interviews were digitally recorded and transcribed. A copy of the interview questions is included as Appendix A.

In addition to the interviews, various meetings involving amoeba leaders, department heads, divisional heads, and a monthly plant-wide morning assembly were attended. These meetings and the assembly were attended by both researchers, with a translator being available for the non-Japanese speaking researcher.

The interviews and meetings revealed insights into two primary factors that underpin amoeba management's success at Kyocera. First, the use of a highly, or what some might call a radically, decentralized organizational structure, is the correct structure for the company's

Please do not cite or quote without the expressed permission of the authors.

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 undertaken in coordination and are supportive of the organization's overall goals and objectives. Each of these two factors is discussed more fully below.

Organizational structure fits environment

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., .6mm x .3mm x .3mm.

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.

When faced with such an environment, the correct organizational response is to decentralize.

The benefits from decentralizing in such environmental circumstances were long ago

Please do not cite or quote without the expressed permission of the authors.

demonstrated by Burns and Stalker (1961) and Lawrence and Lorsch (1967). Together these two pairs of scholars helped launch the organizational theory known as contingency theory.

According to contingency theory, there is no one single or best way to organize. Instead, the choices for organizing, including the systems, processes, and organizational structures that should be adopted, will depend on the nature of the internal and external environments each organization faces and the unique set of goals and objectives being pursued. Employee empowerment and decentralization may be best for one organization, while formalization and centralization may be best for another.

A good illustration of the use of contingency theory is perhaps best provided by recounting the study of Lawrence and Lorsch (1967). The two researchers undertook a set of intensive case studies of various business firms for the purpose of understanding the sources and consequence of organizational structure. They studied companies from three different industries: plastics, packaged foods, and container makers. The three industries were chosen for their differing rates of environmental change. The six firms in the plastics industry operated in a highly competitive environment, one that featured significant investments of research and development and constantly changing products. Furthermore, these firms' production processes were defined as "turbulent," whereby the inputs (in the form of scientific knowledge) and outputs (in the form of customer satisfaction) were highly uncertain.

As a point of comparison to the firms in the plastics industry, Lawrence and Lorsch studied firms from the packaged foods and container industries. The latter was intended to showcase firms that faced low levels of environmental change, while the former was meant to showcase firms with intermediate levels of environmental change. In particular, the container industry was

Please do not cite or quote without the expressed permission of the authors.

characterized by very predictable rates of sales growth (essentially the industry's sales growth tracked the national economy's average rate of growth) and a near total lack of new product introductions (no significant new products had been introduced in two decades). The packaged foods industry, meanwhile, featured new-product introductions and sales growth rates that were more than the container industry but less than the plastics industry.

The findings of Lawrence and Lorsch were two-fold. First, successful firms, as defined by market and economic indicators, were ones that matched the complexity of their organizational structure to the complexity of the environment. Generally speaking, complex environments, meaning highly competitive, unpredictable and/or turbulent environments such as the ones faced by the plastics firms, required decentralized structures. Firms with complex environments but centralized structures were observed to be less successful than their decentralized counterparts. In contrast, firms with simple environments, such as what the container firms operated in, were most successful when they adopted centralized organizational structures. The stable and predictable environments of the container industry meant that many of the associated advantages of decentralized structures became irrelevant. Instead of improving such outcomes as decision response time, decision quality, etc., all that happened to firms using decentralized structures in the container industry was the incurrence of a higher cost structure (due to the additional management, staff personnel, and record keeping that accompanies decentralized structures) than their centralized counterparts. As a result, the decentralized container firms were less successful than the centralized ones. Successful firms in the packaged food industry were found to have organizational structures that fell in the middle of the range between centralized and decentralized structures.

Please do not cite or quote without the expressed permission of the authors.

The second main finding of Lawrence and Lorsch was the recognition that the pursuit of organizational effectiveness meant firms with complex environments had to do more than merely adopt decentralized structures. Decentralized structures are inevitably associated with conflict. This conflict arises due to the decentralized units holding differing ideas about the critical imperatives facing their overall organization and how best to satisfy these imperatives. Also, it is often the case that decentralized units will come into direct competition with one another, perhaps over the formulation of a transfer price or perhaps even the recruitment of the same customer or employee. As Lawrence and Lorsch observed, far from seeking to suppress this conflict, the better performing organizations were the ones that understood this conflict was healthy for, and even essential to, the survival of their organizations. Accordingly, one of the important roles of senior managers in these decentralized firms is to manage the conflict.

It must be remembered that for firms which operate in rapidly changing and unpredictable environments, such as the plastics firms in Lawrence and Lorsch's study, the decisions are seldom easy or straightforward. Furthermore, a decision made today, due to the instability of the environment, might require altering of or rescinding in the future. Added to these complications is the fact that the nature of the intra-firm competition in decentralized firms, including which departments and even the origins of the competition, is often highly dynamic. Allied departments can quickly change to competing departments, controversial issues can abruptly lose relevance, and one-time orthodox practices can suddenly fuel rebellion.

While these descriptions of the conflict associated with decentralization may sound overwhelming to the point of being unmanageable, it clearly is not. Lawrence and Lorsch observed that if an organization can construct conflict resolving mechanisms, or what the

Please do not cite or quote without the expressed permission of the authors.

researchers termed integrating mechanisms, then the benefits associated with decentralization can be realized. The importance of and the forms these integrating mechanisms can take is now discussed.

Integrating mechanisms

Lawrence and Lorsch (1967: 47) define integration as “the quality of the state of collaboration that exists among departments that are required to achieve unity of effort by the demands of the environment.” Integration is needed by decentralized organizations to ensure that the decentralized units are acting in a coherent and coordinated fashion. Lawrence and Lorsch observed that the most effective decentralized firms were the ones which anticipated conflict and established conflict resolving departments and individuals, what they termed integrators. The role of integrators is not to demand compromise or arbitrate on conflicts, but to maintain an orderly forum in which the conflicting departments can resolve their differences.

True to contingency theory’s philosophy, no single generic or best way is purported to exist for establishing integrators. Instead its achievement can be realized in a variety of ways. Referring back to the firms studied by Lawrence and Lorsch, the decentralized firms in the plastics industry achieved conflict resolution through the efforts of integrators who resided at relatively low levels in the organization’s hierarchy. It was observed that effective conflict resolution for these firms could only occur if the integrators had adequate specialized knowledge and familiarity of the situation. Invariably, this requirement meant that the integrators needed to be hierarchically close to the disputing units.

Please do not cite or quote without the expressed permission of the authors.

In addition to noting the generally low hierarchical levels occupied by these integrators, Lawrence and Lorsch also observed that the integrators needed to occupy an organizational space that was equidistant from the conflicting departments. This idea of equidistance was important for promoting impartiality.

In contrast to the conflicts that existed within the decentralized plastics firms, Lawrence and Lorsch observed that the conflicts in the centralized container firms were much less common and best resolved by senior managers. The stable environment and lack of specialized knowledge meant that senior managers had a strong understanding of their firm's operations and the critical factors that underpinned their firm's success. In fact, in combination with the stable environment and the lack of specialized knowledge, the typically greater years of experience of these senior managers compared with their lower-level employees meant that the senior managers were in the best position to adjudicate the conflict or even simply prescribe a solution at the outset.

Integrating mechanisms and management control

As noted above, a 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 its maintenance of coordinated organizational action. In particular, the small scale of operations and centralized organizational structure, assuming 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 decentralize and begin deciding what organizational processes and systems to adopt for ensuring unity of effort.

Please do not cite or quote without the expressed permission of the authors.

The idea of ensuring unity of effort is the focus of scholars who work in the field of management control. This field of study, which is increasingly being called performance management, emerged as a dedicated field of study in the mid 1950s, with the appearance of Anthony's 1956 book entitled *Management Accounting: Text and Cases*. In an updated 2007 version of this book, Anthony and his co-author Govindarajan define management control as "the process by which managers influence other members of the organization to implement the organization's strategy." This influence can occur in a variety of ways and includes the use of:

1. formalized rules and procedures,
2. budgets, and especially the amount of reliance placed on budget attainment,
3. objective versus subjective employee performance evaluation,
4. monetary and nonmonetary incentives, and
5. committees and councils, especially ones to mediate and arbitrate intra-firm disputes

Some management control scholars offer more generalized frameworks to illustrate how senior managers seek to promote coordinated, goal-directed employee action. Simon (1995), for example, describes 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.

Please do not cite or quote without the expressed permission of the authors.

Boundary systems are commonly referred to as the “rules of the game.” While Simons (1995a, 1995b) 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 above negative expression can be reworded as “the company will only source its inputs from suppliers whose work practices include internationally-deemed 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 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 Simon’s notes, interactive systems cover the kinds of challenges that are likely to give managers sleepless nights.

Please do not cite or quote without the expressed permission of the authors.

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 serves to situate and motivate employee thinking and action.

Simons views these four levers of control as separate and distinct, but in reality there can often be overlap. This situation is particularly true for the belief and boundary systems. For example, a mutual fund might have a policy that prevents it from investing in companies that make tobacco products. This policy could manifest itself in a statement like “no investments will be made in tobacco manufacturers,” and accordingly could be classified under Simons’ boundary system. Of course, it is also possible to view the tobacco prohibition as comprising part of the mutual fund’s belief system. An unwillingness to invest in tobacco manufacturers must surely say something about the core values and beliefs of the mutual fund, such as what it deems ethical and comprising good corporate citizenship. Accordingly, this paper has chosen to merge Simons’ belief and boundary systems into one combined category.

Whether there are three or four levers of control is not nearly as important as understanding why and how senior managers use and rely on these levers to motivate and coordinate employee effort. Not surprisingly, complex organizations, which are defined as organizations that have adopted decentralized structures to meet the demands of their size and/or turbulent environments, will require greater amounts of integration. If these organizations do not, 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/boundary, diagnostic and interactive control than senior managers of

Please do not cite or quote without the expressed permission of the authors.

simple organizations. Generally speaking, this greater set of control will derive from the belief/boundary 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 game, 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/boundary and diagnostic control systems.

For a company like Kyocera, its large size and highly turbulent environment mean that its choice of decentralization is appropriate. Of course, Kyocera has chosen to operate a far from typical decentralized structure. Its amoeba management system creates a huge demand for integrating mechanisms, without which the organization would likely disintegrate into a sea of chaos. The next three sections of this paper discuss the specific types of belief/boundary, diagnostic and interactive 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 they have no choice. Exacerbated by the consequences of today's economic downturn, 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.

Please do not cite or quote without the expressed permission of the authors.

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 Kokubu manufacturing plant in Kagoshima – which produces semiconductor components, automotive components, electronic components, and fine ceramics – formal meetings are a daily occurrence for every employee. Some examples include meetings 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 ideas for continuous improvement, and promote customer service. Invariably these meetings involve a cross section of employees from one or more of its four main production divisions, the sales division, and such support departments as distribution, quality control, and research and development. Using the Kokubu plant as a point of illustration, the following paragraphs describe some of the more noteworthy meetings that showcase Kyocera's interactive control.

Setting the monthly plan

At the start of each month, department heads from the plant's four production divisions - consisting of LTCC1 (Low Temperature Co-Fired Ceramic), LTCC2, HiTCE (high thermal coefficient of expansion), and firing/burning - meet to discuss the current month's production

Please do not cite or quote without the expressed permission of the authors.

and sales plan. There are 5-8 department heads for each of the four divisions, meaning there are about 25-30 people in attendance.

During the initial stages of the meeting, the different divisions group themselves by table to discuss and agree upon their collective/division-wide plans. Sales projections have previously been provided to each of the department heads. In fact, the department heads of each division, in consultation with the amoeba leaders they supervise, have already had previous, informal meetings and discussions in the lead up to the monthly planning meeting.

After about one and a half hours of discussions, each division posts its plan on a large chart that is located at the front of the room. Each plan consists of forecasted sales, expenses, value added, and an hourly efficiency measure. A fuller description of hourly efficiency is provided in the later discussion of Kokubu's diagnostic controls. Each division makes a short 3-5 minute presentation of its plan. These plans are invariably commented on by the plant manager, or his designate, who presides over the meeting. Usually the person chairing the meeting concentrates on issues relating to product cost and anticipated stock availability. In other words, the meeting culminates in the deeper identification of issues related to two of Kyocera's four strategic imperatives: price and delivery. Generally the meeting lasts about 2 - 2½ hours.

Comparing planned results to actual results

Once a month, on the final day of each month, the four product divisions' divisional heads and the amoeba leaders for sales, distribution, and quality assurance meet to present and discuss the plant's and their individual group's results. The meeting begins with a general overview of the plant's performance, which is provided by the plant manager or his designate. Following this

Please do not cite or quote without the expressed permission of the authors.

overview, each divisional head and amoeba leader presents his (there were no women heads or leaders) unit's results. The presentations begin by commenting on whether or not the unit's monthly goal was met. The speaker then identifies significant on-going issues, including product quality, outsourcing opportunities, machine efficiency, customer inquiries, and production or sales order backlogs.

These meetings are meant to provide the forum for robust debate on issues that cut across groups and affect their performance. For example, sales orders influence the production divisions' backlog, while the production divisions' manufacturing efficiency influences the sales department's sales orders backlog. Similarly, quality issues cut across sales, production, and quality control. Since the performances of the different groups are linked to their individual and collective actions, the coordination of their action becomes a focal point of discussion. At times, the discussions can become very heated as the groups explore reasons behind unfavourable costs, poor quality, or missed delivery dates.

Amoeba meetings

Daily meetings are held within each amoeba. The workers meet to discuss and comment on their unit's recent (generally the previous day's) performance. An important performance metric is what the company calls the hourly efficiency ratio. Briefly stated, this ratio consists of a numerator that consists of sales minus all expenses (except labor costs) in the numerator and the particular unit's total labor hours in the denominator. This hourly efficiency number can be compared to the amoeba's actual average hourly labor cost to determine profitability, or it can be compared with the amoeba's historical or planned hourly efficiency ratios to evaluate relative

Please do not cite or quote without the expressed permission of the authors.

performance. Greater detail about this measure of hourly efficiency is provided in a later section describing Kyocera's diagnostic control.

It needs to be understood that when Inamori, Kyocera's CEO, chose to adopt the extensive use of profit centers, he did so with the knowledge that many of the amoeba leaders would have only minimum accounting skills. He was willing to tradeoff the lower levels of financial literacy against the higher levels of worker motivation he felt the amoeba system could deliver. All the time, Inamori strove to keep the accounting system as simple as possible. It is for this reason that he chose what he believed was an easily understood hourly efficiency measure.

The hourly efficiency ratio is a central feature of Kyocera's performance system. It is often used to benchmark a unit's performance, whether this unit is an amoeba or a higher level unit such as a section, department, or division. Nevertheless, it is important to understand that although hourly efficiency often begins a discussion, it has never been the company's expectation or desire that this ratio should be the point of the discussion. Instead it is expected that the discussion will dig behind the numbers to understand why and how the hourly efficiency appears as it does. In the process, issues like product cost, quality, and delivery will be covered. In addition, the meetings are used to reinforce the company's motivating philosophy and work ethic, as contained in its corporate motto.

Other meetings

Kyocera undertakes a host of other daily, weekly, and monthly meetings. For example, there are daily meetings between amoeba leaders and the divisional management group. Although the two measures of hourly efficiency and order backlog often motivate the meetings, the purpose is to

Please do not cite or quote without the expressed permission of the authors.

go beyond the numbers and engage in a dialogue that discusses and shares ideas for improving the amoebas' and the division's performance. Meanwhile, weekly meetings are held with each amoeba and the quality assurance department. Referred to as *kaizen* meetings, the purpose is to discuss opportunities and challenges related to product and process improvement, as well as to again reinforce the company's core values about work ethic and expected contributions of each employee.

In addition to the monthly meetings previously noted, further monthly meetings include customer-service meetings, company board meetings, and plant/headquarter meetings. The intention of all these meetings is to go beyond merely presenting performance data, and to begin indentifying and debating critical market trends and their implications for the company, from the aggregate level all the way down to its various amoebas.

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. When Inamori conceived his amoeba management idea, he used the model of a food stall seller. According to Inamori, there were just a couple, basic factors that amoeba managers and their employees needed to monitor: revenues and expenses.

Please do not cite or quote without the expressed permission of the authors.

By subdividing the company into meaningful organizational activities, such as those that could realistically exist in an outside company, and assigning a transfer price to transactions between the loosely coupled amoebas, it became readily possible for amoeba managers to manage their unit's profitability. As one refinement to the calculation of profitability, amoeba profit, which is calculated prior to the inclusion of labor costs, is divided by the amoeba's total number of labor hours. This ratio produces an hourly efficiency number that can be used as an index for evaluating any given amoeba's or other organizational unit's 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.

Amoeba management is especially well suited to fast-paced, dynamic markets. As Inamori (2006) 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 order backlog data becomes a particularly important indicator of performance and management action. The order backlog data provides essential data for developing future sales and production plans. Accordingly, the order backlog data becomes another important dashboard indicator that is used for diagnostic control.

Please do not cite or quote without the expressed permission of the authors.

Belief/boundary 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 control system / 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 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 the various amoeba leaders 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/boundary system.

Kyocera's belief/boundary system is a product of Japan's national culture and, even more importantly, its founder, Inamori. As noted in the work of Hofstede (1991), Japanese culture is characterized by high collectivity. As such, Japanese people are more willing to put the needs of their collective group ahead of any one person's individual needs. This manifest itself in such ways as Japanese workers being more likely to agree with such statements as, "I want to live up to the expectations of my family, friends, and society." Such an attitude of placing one's wider society first 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 serves as a further salutary means of ensuring 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

Please do not cite or quote without the expressed permission of the authors.

workers view work as a valued end in itself. In particular, as Sullivan (1992: 71) has long pointed out, for the Japanese, “work is what one does if one is a good person.” Inamori (2007) reinforces this idea when he writes that “work can provide a degree of spiritual satisfaction.” This understanding of Japanese people’s views of work gives rise to 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.

Kyocera is a perfect showcase for how work serves to define workers and produce societal benefit. The mission statement of Kyocera is stated as:

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.

In addition to the role national culture plays in helping to ensure the unselfish operation of amoeba management in Japan, Kyocera’s history and, in particular, the background of its founder, Inamori, exert a key role. As Inamori (1999: 25) notes, his background as an electrical engineer at Shofu provided scant preparation for his role as founder and CEO of Kyocera. Compounding this problem, a problem which he described as his having “absolutely no experience, no background in management, and no confidence of success” (1999: 25), there was no one to mentor him. Inamori describes the loneliness and isolation he felt during these initial days. It was at this point that he realized the need and benefit that could come from empowering his employees and letting 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

Please do not cite or quote without the expressed permission of the authors.

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 further defined as the things that your parents and teachers taught you were right (Inamori, 1999: 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. A second benefit of the corporate motto is that it helps to preclude the occurrence of selfish amoeba behavior. In particular, the corporate motto serves to instill in its employees the values of being "unselfish and noble" (Inamori, 1999: 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 and boundary system that enhance amoeba management's ability to ensure organizational control and integration: high trust and a customer-oriented philosophy. The strong Japanese work ethic noted above and Japan's commitment to the philosophy of total quality management 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, as will be explained below.

Unlike the common western view, whereby employee behavior and motivation is seen as a nexus of *quid pro quo* relationships between the organization and its employees (see, for example, Bass, 1985, and his concept of transactional leadership), amoeba management views worker

Please do not cite or quote without the expressed permission of the authors.

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 (Inamori, 1999: 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 helps transform the view of workers from simply being 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 for 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 describes the need for amoeba employees to be their "customers' servants" (Inamori, 1999: 41). 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:

Please do not cite or quote without the expressed permission of the authors.

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, and it must be remembered that these customers can be either internal or external to the company, the amoebas will find they need to work in harmonious coordination.

People and empowerment

Employee empowerment resides at the very core of amoeba management. According to the organizational behavior 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 there are occasions where empowerment succeeds and other occasions where it fails.

Hackman and Oldham argue that individuals can be characterized along a scale they call growth need strength (GNS). People with high GNS 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

Please do not cite or quote without the expressed permission of the authors.

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 Kokubu 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 organizational integration, and the right type of employees. In particular, Kyocera's highly competitive environment and its complex technological environment require a decentralized structure. Amoeba management represents a very shrewd way for successfully responding to this environment. Due to the highly decentralized structure of amoeba management, 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/boundary system levers of control. Belief/boundary systems proved to be the main lever of control at Kyocera. And finally, for the employee empowerment that is at the heart of amoeba management to succeed, employees must accept and even thrive on challenge. In the words of Hackman and Oldham, employees must possess 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. A second dimension is whether the system can translate to the likely

Please do not cite or quote without the expressed permission of the authors.

very different organizational cultures that exist at other organizations. For instance, can Anglo-American organizations, which do not have the same collective/team-oriented national culture as Kyocera, develop the belief and boundary systems needed to integrate the various amoebas? The second paper in this two-part series on amoeba management investigates this issue. In particular, the second paper explores which firms are most likely to benefit from amoeba management adoption and identifies the internal and external factors that are likely to promote or prevent its successful adoption.

Please do not cite or quote without the expressed permission of the authors.

References

- Bass, B.M. (1985) *Leadership and Performance Beyond Expectations*. New York: Free Press.
- Cooper, R. (1995) *When Lean Organizations Collide: Competing Through Confrontation*, Cambridge: Harvard Business School Press.
- Cooper, R. (1994) "Kyocera Corporation: The Amoeba Management System," HBS No. 195-064, Boston: Harvard Business School Publishing.
- Hackman, J. and Oldham, G. (1980) *Work Redesign*, Reading MA: Addison-Wesley.
- Hiromoto, T. (2005) "Management Accounting System as a Micro-Macro Loop," *The Hitotsubashi Review* (Hitotsubashi University), Vol. 134, No.5, pp.58-88.
- Hiromoto, T. (2007) *A Study on Business Organization and Management Accounting*, Japan Accounting Association.
- Hofstede, G. (1991) *Cultures and Organizations*. London: McGraw-Hill.
- Inamori (1999) *Respect the Devine and Love People*, San Diego: University of San Diego Press.
- Inamori (2007) *A Passion for Success*, Singapore: McGraw-Hill.
- Kotter, J. and Rothbard, N. (1991) "Kyocera Corporation," HBS No. 491-078, Boston: Harvard Business School Publishing.
- Mayo, A., Masako, E., and Mayuka, Y. (2008) "Kazuo Inamori, A Japanese Entrepreneur," HBS No. 408-039, Boston: Harvard Business School Publishing.
- Miya, H. (1998) "Micro-profit Center System for empowerment: A Case Study of the Amoeba System at the Kyocera Corporation," *Gakushuin Economic Papers*, Vol. 35, No. 2, pp. 105-115.
- Simons, R. (1995) *Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal*, Cambridge: Harvard Business School Press.
- Sullivan, J.J. (1992) "Japanese management philosophies: from the vacuous to the brilliant," *California Management Review*, Winter, pp. 66-87.

Please do not cite or quote without the expressed permission of the authors.

Appendix A

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 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 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 level (e.g., selection of amoeba heads, evaluation of amoebas and their managers, replacement of amoeba heads, etc.), interactions between amoebas (e.g., the type and frequency of meetings, decisions about internal versus external sourcing, amoeba dispute procedures, etc.), 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 centers and Higashimaru's price control system.
7. Some western academics believe amoeba management is nothing more than a reconfiguring of an organization into profit centers. 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?

Please do not cite or quote without the expressed permission of the authors.

Appendix A (cont.)

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 none of your competitors have not adopted 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, private versus public, etc.) organizational strategy (e.g., low cost versus differentiation, first developer versus imitator, etc.), 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?