

The Gap between Knowledge Management and Records Management

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1. Introduction

This paper explores how we can construct a records management system (RMS) in which records and information are actually used to support and improve the operations of a workplace. In other words, we will consider how records are linked to existing work processes.

When discussing records management, we have three levels of analysis: a societal level, an organizational level, and an individual level. At a societal level whether or not RMS contributes to accountability is important; at an organizational level RMS is required not only for compliance, but also for supporting the operation; at an individual level people at work want RMS that enables them to easily access useful information and to create evidence for their work. In this paper, we mainly focus on the organizational level, considering organizations such as companies or government agencies, because organizations are one of the main actors that collect and disclose records and information to stakeholders in a society.

The approach employed here is, first, to build a framework to analyze knowledge management (KM) and records management (RM). Next, we apply our framework to three cases and verify the effectiveness. Through considering how knowledge is used in reality, we figure out why RMS does not work well to support and improve the operation.

We have organized this paper as follows: in Section 2 we explain the background of our research and review the literature concerning KM and RM; in Section 3 we build the framework of analysis; in Section 4 we apply it to three cases; in Section 5 we summarize our points and show our conclusion.

2. Background and Literature Review

In this section, first, we briefly explain the background of our research. Next, we review the literature relating to KM and RM. There are three points of reference: the shift from life cycle models to the records continuum model, the rising expectations for KM, and the gap between KM and RM.

Our research group has engaged in the study of the Victorian Electronic Records Strategy (VERS) since 2006. The purpose of this study is to make clear the roles of archives in the digital age by comparing RMS introduced in the government agencies in Australia and Japan.

The Public Record Office Victoria (PROV) in Australia commenced VERS in 1995. PROV was concerned about “the electronic archiving problem,” that is, digital records are easily lost and it is difficult to ensure their authenticity and reliability (Ernst & Young, 1996, 1999; Russell, 2003). A VERS-compliant system is designed to capture and maintain accurate and authentic digital records when

they are created and to increase accountability through improved transparency in government business processes (Available at <http://www.prov.vic.gov.au/vers/vers/businessbenefits.htm> checked April 23, 2008). We have researched what impacts electronic records management systems bring about to our society.

Next, we review the literature about KM and RM. First, we point out the shift from life cycle models to the records continuum model from theoretical background of these practices in Australia (McKemmish, 1997; Sletten, 1999).

Life cycle models are the dominant model in records management theory and practice. As Sletten (1999) describes, "The life cycle concept advocates care and control of records throughout the life cycle, from creation, maintenance and use, through disposition (not to disposition)" (p.26). In this cycle, records managers and archivists are regarded as custodians of records. Records are given to them in advance; some records are administratively and legally required to be retained for specified periods, 5 or 10 years; other records are stored forever for historical research.

Life cycle models focus on physical entities, that is, paper records. These models pay attention to how the state of records changes: creating, maintaining, using, and disposing. Consequently, records manager and archivists are not much interested in how records are actually utilized by users.

In the 1990s, however, the concept of the continuum was prevalent in records management theory in Australia. According to Piggott and McKemmish (2002), the records continuum model emphasizes on concepts of transactionality and contextuality that are rich, complex, and multi-layered. Transactionality is defined as various forms of human interaction and relationships, such as

individual acts of communication and social and business transactions of all kinds; social and business transactions are documented in records at all levels of aggregation. As for the concept of contextuality, it is “concerned with the record’s rich, complex, and dynamic social, functional, provenancial, and documentary contexts of creation, management, and use through spacetime” (Piggott & McKemmish, 2002, p.12). The records continuum model is characteristic of trying to approach not only records but also human interaction. The model states that, “records are in a constant state of becoming” (McKemmish, 2001; Upward, 2001). The recordkeeping and archiving process fixes and preserves the evidence of human interaction as records. We are, then, able to access the records anytime by disembedding them from their context of creation and providing them with contextual metadata (Piggott & McKemmish, 2002, p.12). Records take a form that logs our activities so that anyone can access them anytime and anywhere. Thus, these records can produce meanings beyond space and time.

With regard to the building of the records continuum model, Upward (1996) refers to the influence of Lyotard and Giddens, and McKemminsh (2001) shows the relevance of Foucault, Derrida, and Giddens. According to my understanding, concepts of Deleuze, such as “*devenir*” and “*multiplicité*,” are also useful (Deleuze & Parnet, 1977; Deleuze, 1986). Records are regarded as an ever-changing process like *devenir* (Deleuze & Parnet, 1977). As Deleuze refers to Foucault’s work (Foucault, 1969), he suggests records and archives as *multiplicité* (Deleuze, 1986).

Records can have various meanings in each social context. For instance, one document is created as a result of business activities and recorded as a record.

The record is used in different ways: it may be sent to a superior to make a decision or appraise a performance or if a legal problem occurs, it may be regarded as evidence.

Thus, records are not given in advance in the records continuum model. Records have multiple meanings in different contexts. In our digital society, we easily access and use records anytime and anywhere so that records' meanings may be much more extensive. The records continuum model is expected to play a vital role in developing electronic records management.

Moreover, the record continuum model pays attention to accountability. In fact, digital record management is expected to improve accountability because information and communication technology (ICT) enables easy access to information and records (Meijer, 2001). Records are evidence of an activity: "Records are an essential element in the accountability of government, in the maintenance of transparent democracies, in the provision of access by citizens to information and in the effective formulation and execution of policies" (Shepherd, 2006, p.11).

Social pressure to accountability has also arisen. Accounting corporate scandals such as Enron and WorldCom accelerated to foster regulations that would enhance the transparency of financial reports. As a result, the Sarbanes-Oxley Act of 2002 was introduced in the United States. Similar scandals took place in companies such as Kanebo and Livedoor in Japan. RM was also expected to have the function of organization auditing (Thurston, 1997; Shawver, 2005).

We should consider the opportunities and the risks of accountability in the digital age (Meijer, 2001). On one hand, using an interactive communication tool might help us join the decision making process of government (Lamont, 2005). On the

other hand, as accountability is improved, there are risks that day-to-day activities are monitored too much (Lyon, 2001). The question of using ICT is, therefore, double-edged.

Second, in the 1990s KM had become one of the most well-known concepts and business initiatives. Nonaka is an influential researcher who disseminates the concept of KM (Nonaka & Takeuchi, 1995). According to Nonaka and Takeuchi (1995), when knowledge converses the form between explicit knowledge and tacit knowledge, knowledge creation takes place and leads to continuous innovation. Knowledge creation is considered to produce corporate competitive advantages. Knowledge is also assumed to be a key concept of explaining a firm; for example, Grant (1996) contends that the firm is conceptualized as an institution for integrating knowledge.

Moreover, KM is connected to organization learning, organizational culture, and change management (Davenport & Prusak, 1998; Saffady, 2000; Loermans, 2002; Seng, Zannes, and Pace, 2002). Since knowledge is not only preserved by organization memory systems, a corporation's reform is implemented by reviewing other components of organizational knowledge such as individual people, social networks, computer-based information technologies, knowledge centers, and other knowledge retention devices (Scalzo, 2006).

As the concept of KM was accepted in the business world, expectations for KM also arose in records management literature. The development of ICT accelerated these expectations. "KM is concerned with systematic, effective management and utilization of an organization's knowledge resources" (Saffady, 2000, p.4). Records managers and archivists are regarded as knowledge workers and professionals dealing with organizational knowledge. Therefore,

optimistic views of the future of RM were observed. Records managers and archivists were expected to play an important role to contribute to KM initiatives; researchers proposed prescriptions for changing their roles (Dearstyne, 1999; Yakel, 2000; Saffady, 2000, Hughes, 2003).

Third, as KM initiatives are introduced, disappointments and frustration with KM have been gradually observed. KM projects are generally attempts by ICT departments, and KM systems are not designed for users. Nor do they contribute to a reduction of cost or an enhancement of productivity at a workplace (Tombs, 2004).

Although there are considerable overlaps and commonalities between KM and RM, there are also disconnects between them. According to Pemberton (2004), the differences between KM and RM are as follows in figure 2.1.

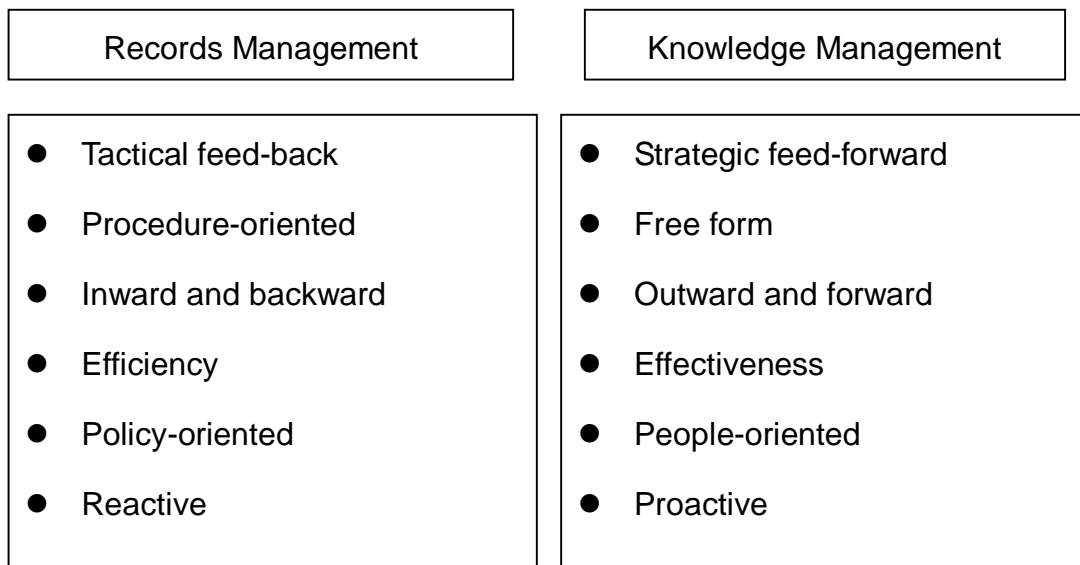


Figure 2.1 The Differences between KM and RM

Source: Based on Pemberton (2004), pp.48–50

Here, we explain figure 2.1 briefly. On one hand, records represent what happened in the past. The purpose of RM is to control records created in the daily ongoing business process. RM is structured and procedure-oriented and the domains of records are internal to the organization. The objective of RM is to accomplish its tasks efficiently. It is concerned with well-defined policies and auditable procedures and mainly responds to what is requested.

On the other hand, knowledge represents what is strategically used in the future. The purpose of KM is to utilize information assets strategically. KM is unstructured with creativity and innovation. There are no boundaries for KM. Its objective is to effectively lead a business to success. It encourages people to communicate and share information and it is action-oriented and future-oriented. As some researchers pointed out, it is important to recognize the differences and the necessities to bridge the gap between RM and KM (Hughes, 2003; Pemberton, 2004). According to Hughes (2003), records managers and archivists should commit to strategic initiatives in spite of the differences of KM and RM. To accomplish new tasks, records managers and archivists require a wider skill-set: communication skills, change management skills, leadership, people management, project management, enthusiasm, persuasion, and tenacity. Hughes (2003) emphasizes that records managers and archivists need the ability to look for opportunities to contribute to internal clients and to deliver service to them enthusiastically. RM is facing a transition period and the required roles of records management workers are being extended; however, many records managers are not able to change their roles and cling to their traditional roles. Sooner or later, most of their traditional roles might be replaced by ICT. According to my understanding, VERS will help to deal with the change and it

will add a new role of RM to the archival institution. So following this project may indicate the direction that RM will take in the future.

In this literature review, we point out three things: first, records management theorists are interested in how to utilize records; second, archivists and records managers' roles may have to change to contribute to KM; third, technological improvement alone is not enough to change their roles.

3. The Framework of Analysis

In this section we build the framework of analysis. First, we explain that reality has a stratified structure. Second, we show that there are four forms of knowledge. Finally, we indicate that these forms of knowledge are dynamically interconnected.

We introduce Barnard's concepts of reality and knowledge who was a well known management theorist and practitioner. He was the president of the New Jersey Bell Telephone Company when he published a classical book about organization and management (Barnard, 1938). He produced the following useful concepts and theories for considering an organization: formal organizations and informal organizations, inducement-contribution equilibrium, acceptance theory of authority, decision making, the essential conditions of business morals, etc. (Simon, 1947; March & Simon, 1958; Wolf, 1974, 1996; Mahoney, 2002). His influence is still strong in the field of organizational theory (Williamson, 1990). I developed his theory of authority and built a framework to analyze organizational authority from the viewpoint of triadic relationships (Isomura, 2000).

Recently, his concept of organizational knowledge has been regarded as one of the origins of KM (Niwamoto, 1983, 1986; Levitt & March, 1990; Niwamoto, 1991; Nonaka & Takeuchi, 1995; Gehani, 2002). Barnard, as the president of Rockefeller Foundation, supported the research of Michael Polanyi whose concept of tacit knowledge is also regarded as an origin of KM (Polanyi, 1958, 1967). Moreover, Barnard and Polanyi shared an intellectual relationship: there were at least two letters from Barnard to Polanyi (Niwamoto, 1991; Wolf, 1996). Therefore, in this section we build the framework based on Barnard's insights on organizational knowledge.

First, we point out that reality has a stratified structure. As Barnard (1937) shows, "what can be verbalized is the least part of the whole; that what is conscious is a larger part of the whole, and that what is felt is a still larger part" (since it must include what can be verbalized or consciously perceived) (p.67). Moreover, there is the unknown and unknowable reality in our world (Barnard, 1945, p.204). We show this in figure 3.1.

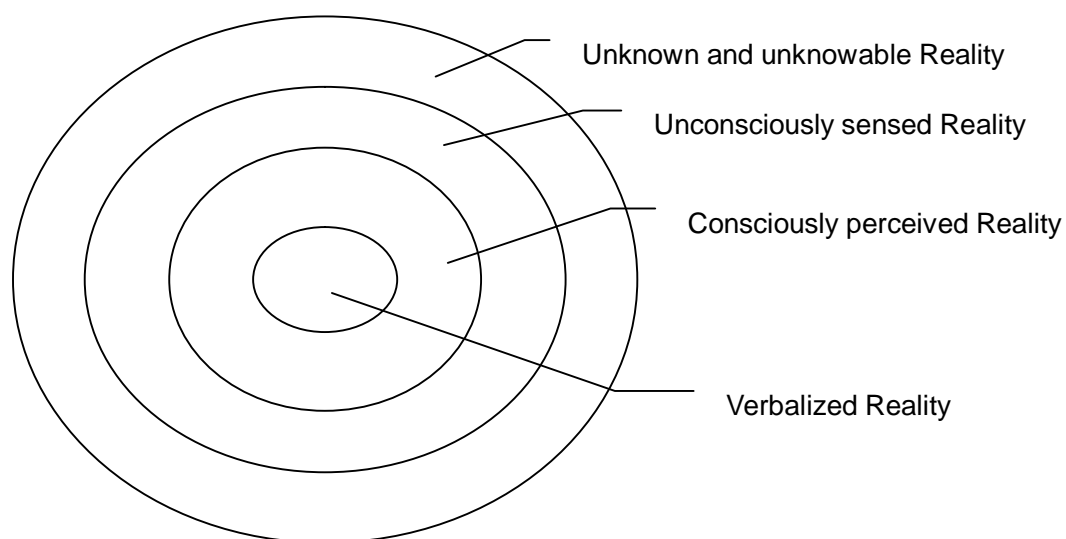


Figure 3.1 The Stratified Reality

Source: Based on Barnard (1937)

When we take into consideration that records are mostly verbalized, we abstract only the least part of the whole reality. We collect fragments of the reality, analyze their relationship, and build our understanding of the reality. We should not forget that there also are consciously perceived, unconsciously sensed, and unknown and unknowable realities behind verbalized realities. Consequently, it is possible that if we are in a similar situation, we might live different realities.

Second, we show that there are four forms of knowledge: skills, personal knowledge, formal knowledge, and judgment. According to Barnard (1950), a pyramid metaphor is helpful to show these forms.

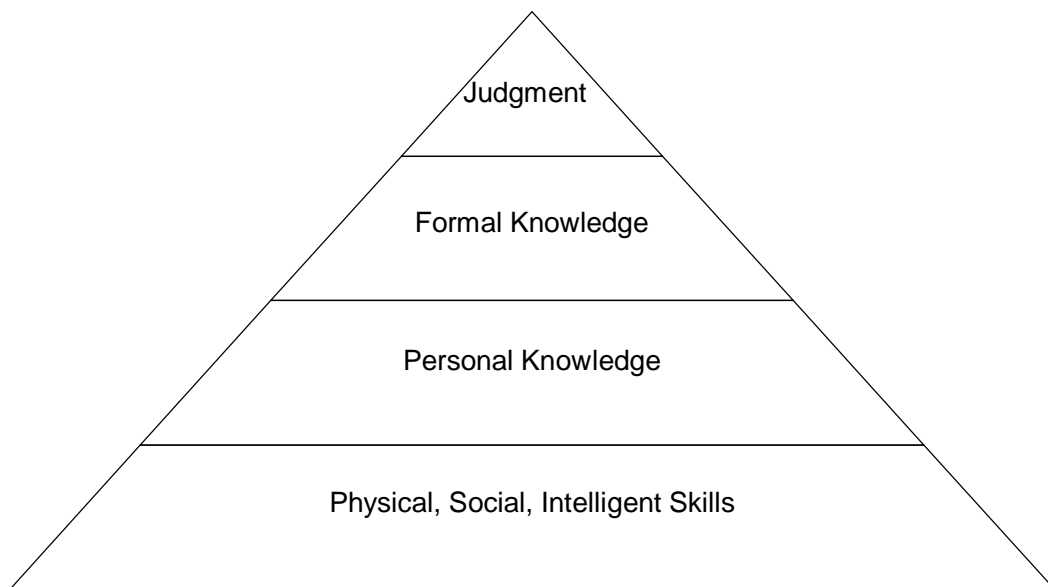


Figure 3.2 The Diversity of Knowledge

Source: Based on Barnard (1950)

Barnard (1950) describes as follows: “at the base there would be the ordinary and the specialized bodily skills, and then would come the particularized personal knowledge essential to responsible behavior. Still higher we could place the professional know-how and intellectual techniques acquired in school. But intellectual equipment is by no means the apex of the pyramid. That supreme position, I believe, must be reserved for judgment” (p.135).

We acquire physical skills by imitation and practice. Skills are not necessarily regarded as a form of knowledge, but we may say that knowledge is embedded in our body.

Personal knowledge is not well recognized either. In fact, it is not regarded as knowledge. This knowledge is local and context bound. It is mostly useful individually and is not shared with others or recorded. KM pays attention to this form of knowledge, which is also called tacit knowledge. Nonaka and Takeuchi (1995) disseminated the dichotomy of explicit knowledge and tacit knowledge. According to my understanding, there is a risk that this dichotomy regards knowledge as a thing that can be exchanged and managed easily. Action and knowledge are inseparable; they represent two sides of the same coins.

Those who have specific skills and personal knowledge are called “professional” or “expert.” Dreyfus and Dreyfus (1986) show that there are five steps to learning and acquiring skills and personal knowledge: novice, advanced beginner, competence, proficiency, and expertise.

When personal knowledge is regarded as valuable, it is shared and accumulated in a society. Most people regard this shared knowledge as knowledge. We call this form of knowledge “formal knowledge.”

If knowledge is utilized in day-to-day activities, we understand it is useful and valuable. Judgments play an important role in connecting knowledge to our daily behaviors. When we make decisions, we base them on skills, personal knowledge, and formal knowledge; however, as we pointed out, there is also an unknown and unknowable reality, so we often have to judge without adequate evidence when a decision is required. Hence, decision makers are responsible for the results even if they do not have enough evidence for judgment.

The four forms of knowledge are interconnected dynamically. Niwamoto (1991) contends that these four forms exist in cycles: these cycles start from action; then change in form, such as behavioral knowledge, personal knowledge, and formal knowledge; and finally return to action. Skills and judgments play a role in transforming the form of knowledge.

We acquire knowledge through ordinary activities; some part of this knowledge is accumulated in each individual. If this knowledge is regarded as valuable, it is shared as formal knowledge in a society. We are dependant on the accumulation of this knowledge and can learn it at school or other educational institutions. We make our daily decisions using these three types of knowledge.

Next, we develop Niwamoto's model and build a framework of analysis; action, personal knowledge, and formal knowledge are interactive processes like those shown in figure 3.3. In this framework we emphasize the deep connection between action and knowledge: knowledge is created and used in action.

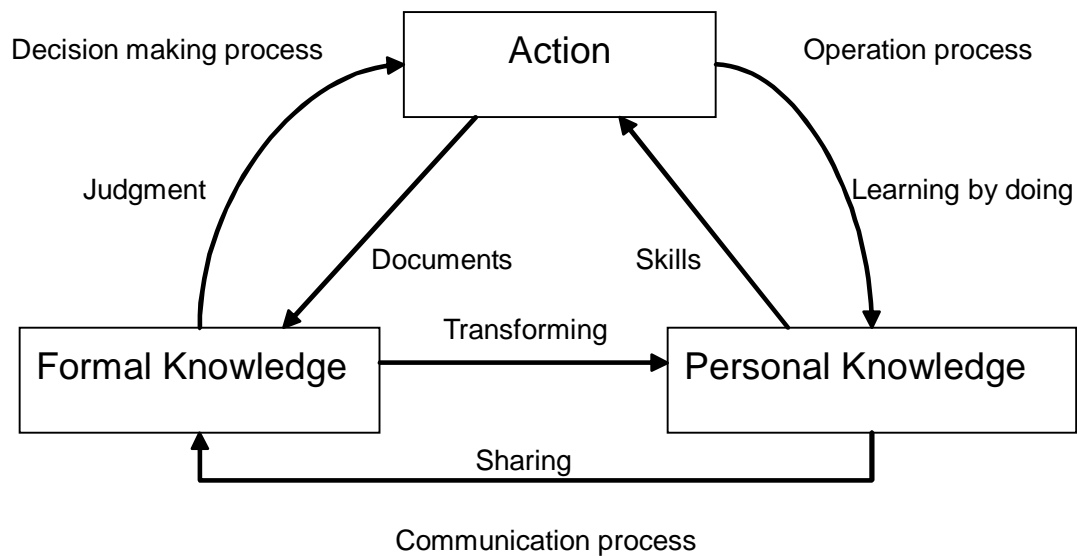


Figure 3.3 The Dynamics of Knowledge

There are three processes: an operation process, a communication process, and a decision making process. As these three processes are interconnected, we do not utilize knowledge effectively if each process is separated.

In an operation process, action and personal knowledge change forms with each other. We acquire personal knowledge through daily activities. We learn through experiences, so we call it “learning by doing.” We utilize this knowledge without knowing because this knowledge is embedded in our body as skills.

In a communication process, personal knowledge and formal knowledge are transformed with each other. If personal knowledge is recognized as valuable and formalized, it is shared with others as formal knowledge. Formal knowledge is stored as records, in books or in databases, so other people can access it easily.

Formal knowledge is a form of knowledge free from context, but when we use it,

we have to transform it to personal knowledge again and adjust it to a specific context.

In a decision making process, formal knowledge is used for action. As a result of action, documents and files such as reports or minutes are created and accumulated as records. We basically make decisions based on formal knowledge, although we often have to prepare our judgments without enough evidence in reality.

When these three processes are combined properly, not separately, we contend that KM and RM work well.

In this section, we built the framework to analyze KM and RM according to Barnard's concept of reality and organizational knowledge. There are three points: reality is stratified; knowledge takes various forms in each process; and these processes are mutually linked. To make sure that this dynamic works in KM and RM practices, we will examine three cases in the next section.

4. Case Analysis

In this section we look at three cases of KM practice. In knowledge management literature, cases of R & D department or manufacturing company are often introduced. We introduce three cases here: two about a retail business and one about consulting firms.

First, we look at the case of Shimamura. Shimamura is a specialty store chain of apparel. This company pursues the rationality and standardization of low-cost operation. Manuals play an important role to establish this low-cost operation. These manuals are very thick: there are ten volumes and 1,000 pages in total.

Five volumes are for store operation: rules of employment, operation, display, operation checklists, and training manual and glossary (Mizoue, 2001).

This company's rate of part-time employees is more than 80 percent. Each store is thoroughly standardized and is composed of one store manager and eight or ten part-time employees. To accomplish low-cost operation, Shimamura depends on the work power of part-time employees. This company enthusiastically accepts proposals from them. The manuals are continually revised. We show the flow of the operation's improvement in figure 4.1.

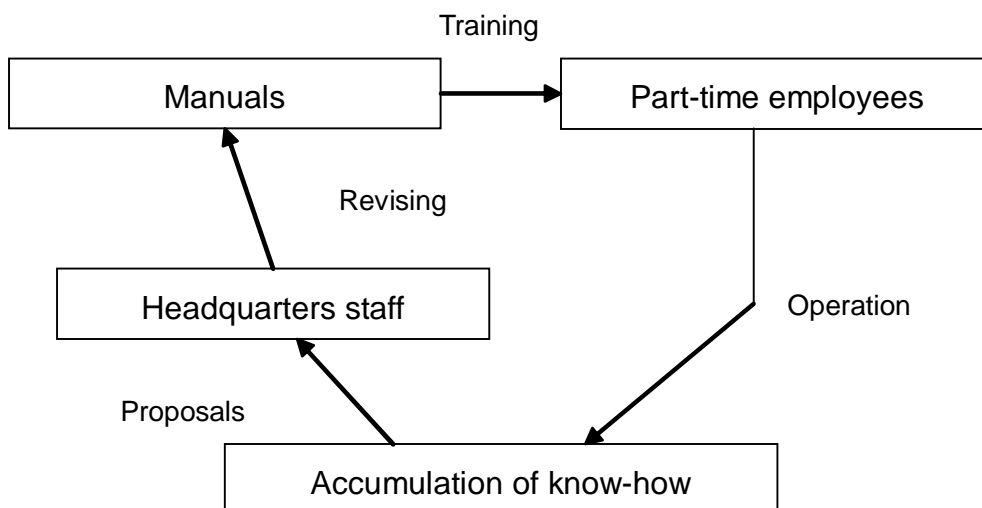


Figure 4.1 Low-cost Operation of Shimamura

Source: Based on Mizoue (2001), pp.132–152

First, the manuals are used for training new part-time employees. They have more than a 20-hour training course. Part-time employees are main players in a store, and they gradually learn more efficient ways of operation. They

accumulate know-how and propose their ideas to the headquarters staff. More than 3,000 proposals are given per month, which is more than 30,000 a year. Headquarters staff and board members investigate and adopt 100 of these proposals a month, and the manuals are revised day-by-day (Tanaka, Baba, and Tanigawa, 2006).

The manuals are sort of records in the form of formal knowledge. The know-how of the operation is restored in the manuals. Basic knowledge about the operation is transferred and shared with part-time employees by training with the help of the manuals. However, part-time employees do not follow the manuals blindly because they are familiar with their store's operation and find defects in the manuals and they have a lot of personal knowledge about the operation. To utilize their personal knowledge, Shimamura encourages part-time employees to propose ideas of reform. Headquarters staff judge which proposals are acceptable according to business policies.

Thus, an operation process and a decision making process is connected through the manuals; partly a communication process is connected with other processes. Employees are not commanded to absolutely obey the manuals. The manuals are considered a tool to support the operation. In this case, the operation of a store is recorded in the manuals and the manuals are evolved by the collaboration of employees and headquarters staff. The manuals are comprehensive but very flexible.

Next, we introduce the case of consulting firms McKinsey and Company and Bain and Company. These strategy consulting firms provide creative and analytical advice to top management. They charge high fees to help clients with specific problems that they face. Consulting firms are composed of highly

intelligent knowledge workers such as MBAs. Most work is project-based and teamwork is important. Knowledge is these companies' core asset. Building networks of people encourages the sharing of knowledge and information with others. We show their way of sharing knowledge in figure 4.2.

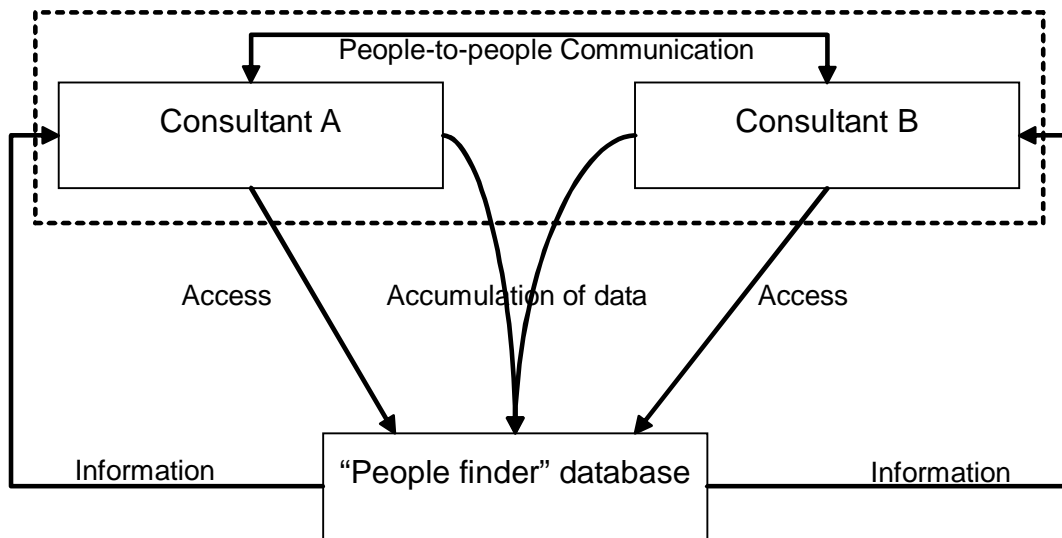


Figure 4.2 Sharing Knowledge by Building Networks of People

Source: Based on Hansen, Nohria, and Tierney (1999), pp.106–109

As Hansen et al. (1999) pointed out, “knowledge is closely tied to the person who developed it and is shared mainly through direct person-to-person contacts” (p.107). Strategy consulting firms focus on direct communication, not knowledge objects in a database; therefore, the main purpose of computers is to support contacts between consultants, not to store knowledge objects such as interview guides, work schedules, or market segment analyses.

A database accumulates the information about personal work record.

Consultants freely access this database and try to contact the people who can help them. Through this direct communication a consultant “develops networks for linking people so that tacit knowledge can be shared” (Hansen et al., 1999, p.109).

The consultants of these two companies are regarded as holders of useful knowledge. The knowledge with which they deal is not easy to store in a database, so a database of work career record is built and consultants are encouraged to communicate directly. Consultants are knowledge workers and judge who can give important knowledge and understand how it is used in their work.

Thus, the operation process and the communication process are connected effectively in these cases. A database does not have to be comprehensive because users have the ability to judge what information is necessary and who they should access for it.

Finally, we examine the case of Ito-Yokado. Ito-Yokado is one of the largest general merchandise stores (GMS) in Japan. Seven-Eleven Japan, a chain of convenience stores, belongs to the same group of Ito-Yokado. In 2005 Seven & I Holdings was established. This group is a big retail conglomerate composed of convenience stores, GMS, department stores, supermarkets, a restaurant chain, financial services, IT services, and specialty stores.

Ito-Yokado and Seven-Eleven Japan are well known for developing a unique information system (IS) called the POS system: the management of information at the time of sales. Utilizing this system for marketing, Ito-Yokado implements highly accurate “item-by-item control.” According to *Corporate Profile 2007*, “item-by-item control is a series of efforts that focus on each product (single

item) displayed on sales floors, develop hypotheses by means of sales volume, sales methods, and display methods, verify the sales results, and approach the customer needs” (p.5). We show their system in figure 4.3.

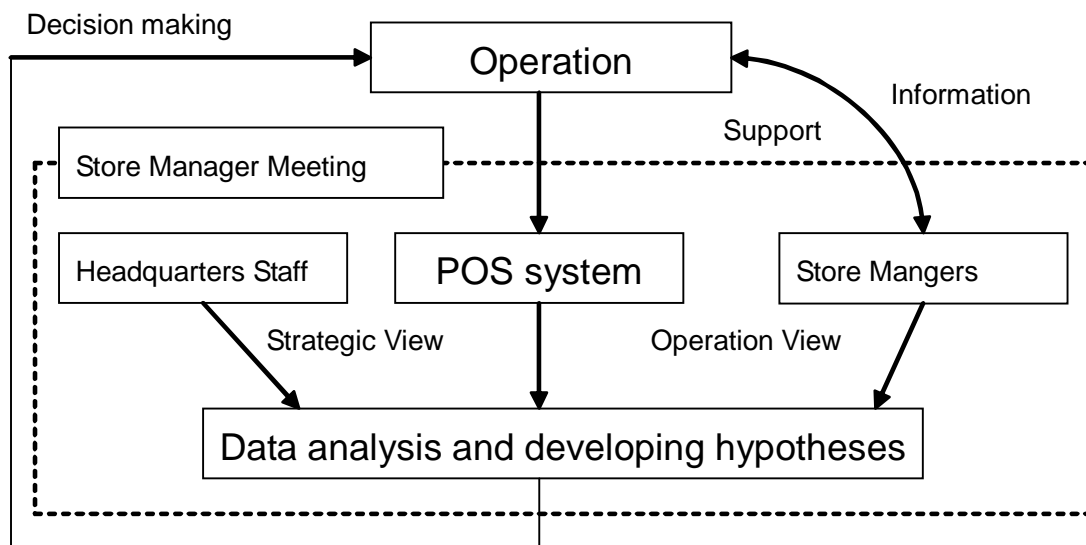


Figure 4.3 Combining Information System with Direct Communication

Source: Based on *Corporate Profile, 2007*

Ito-Yokado emphasizes on direct communication. Data are regarded as records of the past and are not used effectively without the information of operation; therefore, Ito-Yokado holds a store manager meeting every week. In this meeting, all the store managers assemble and share specific policies for reform and the product information of all the stores and sales floors (Akiba, 2003).

In this case, IS called the POS system is the center of KM and RM practice; however, Ito-Yokado does not use this system independently. Store managers share the knowledge and information with their store workers. Store managers

give the information on the spot and headquarters staff shares it and makes decisions together.

Thus, Ito-Yokado builds IS to interconnect an operation process, a communication process, and a decision making process.

As we noticed in these three cases, each case develops its own practice; Shimamura effectively utilizes manuals to accomplish low-cost operation; strategic consulting firms build databases to encourage communication between consultants; Ito-Yokado holds a meeting to share and analyze information from the viewpoints of both strategy and operation. The companies in all of these cases try to set up KM and RM practices to combine these three processes effectively.

5. Conclusion

Our purpose in this paper was to explore how we can build an RMS that is effectively utilized to support and improve a workplace's operation. In section 2 we described the background of our research. A paradigm shift from the life cycle model to the continuum model is currently going on in records management theory, especially in Australia. There is an expectation that the functions of RM will be expanded from traditional recordkeeping to supporting and improving the operation of a workplace so that KM practices and RM practices can be combined. Some researchers oppose these assertions, however, because there is still a deep gap between them.

To consider the causes for the gap, we constructed a framework to analyze KM and RM. Records and knowledge are created, collected and utilized through

three processes: an operation process, a communication process, and a decision making process. When these three processes are dynamically interconnected, KM and RM work effectively. We discussed three cases to make sure of that.

According to this discussion, we conclude the following points: First, action, knowledge, and judgment are dynamically interrelated. In fact, KM practices are designed to combine an operation process, a communication process, and a decision making process. Second, the gap between KM and RM is assumed to be caused by separating these three processes. To build an effective RMS, the system should be designed to interconnect with these three processes. Third, RMS is standardized and comprehensive, but the system must be flexible and local to utilize knowledge. Although ICT enables us to easily build a comprehensive and standardized system, this kind of system is sometimes too complicated for users and does not necessarily support and improve an operation on the spot.

From this viewpoint, we continue to study VERS. We investigate, concretely, how end users accept and use the VERS system to verify the hypotheses we proposed here.

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overview of the Victorian Electronic Records Strategy (VERS) and how VERS was introduced with the support of the Victorian Government. We thank Justine Heazlewood, David Brown, and the other staff members of PROV for their help. We had an opportunity to discuss with Sue McKemmish and Frank Upward at Monash University. I was inspired by the discussion and realized that the approach to records management from the viewpoint of business administration was valuable. We visited Melbourne University and discussed their way of managing university archives and business archives within one system. Through this discussion, I understood that there are alternatives for the management of digital records. We are grateful to Michael Piggott, Suzanne Fairbanks, and Catherine Nicholls for their hospitality.

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