

INDUSTRIAL UTILIZATION OF SNS AS A TOOL OF KNOWLEDGE MANAGEMENT FOR THE EMPLOYEES --- CASE STUDY OF JAPANESE FIRMS --- *

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In Japan, companies are introducing Intranet Blogs or SNSs for the purposes of Knowledge Management and to revitalize employees' communication, and the number of these companies has been increasing. Job-related Blogs and SNSs are effective for Knowledge Management, i.e., decreasing time and money for the collection of information, improving speed for decision making, widening employees views, shortening time to find key persons, acquiring knowledge from key persons, and interpreting that knowledge and applying it to business.

1. Introduction

1.1. *Social phenomena of SNSs*

In Japan, trends such as Blogs and SNSs (social networking services, hereinafter SNSs), where individuals transmit information and share it on the internet, are becoming prominent. Companies pay attention this movement, and the social interest on introducing Blogs or SNSs to the Intranet has been growing for the last several years.

A Blog is like a diary on the web, and a SNS offers services that visualize people's networks of contacts. In SNSs, users can post diaries, send messages among users, make communities, visit other users' pages, and share information. Friendster, MySpace, and Facebook, are the most famous global SNSs, and Mixi is the biggest SNS in Japan with over 8 million users.

1.2. *Job-related SNSs on the company Intranet*

Intranet SNS is a concept where companies introduce these services on the Intranet, and employees also disseminate information on the Intranet. Employees write about conversations with clients, things that they notice through business, and about worries and solutions. The increase in the ability of individuals to disseminate information is influencing the information-flow inside companies. For example, it has traditionally been difficult for free exchange of opinions to occur between employees that transcends divisions in vertically compartmentalized organizations.

Companies are introducing Intranet Blogs or SNSs for the purposes of Knowledge Management and to revitalize employees' communication. Among Japanese enterprises, FUJIFILM Corporation, Hitachi Ltd, and CASIO Computer Co. have Intranet Blogs, while NTT EAST (Nippon Telegraph and Telephone East Corporation), NTT Data Corporation, Nipponkoa Insurance, and Fujitsu Ltd. have introduced SNSs.

These are classified into three types. The first type is where companies manage Blogs and SNSs to improve communication with their clients or customers. Writers are limited to clients or consumers and selected employees (FUJIFILM Corporation). The second type is where Blogs and SNSs are used within the Intranet, but retired employees are included (Nipponkoa Insurance). The third type is closed and used only by active employees within the Intranet (Hitachi, CASIO, NTT EAST, NTT Data and Fujitsu). This paper focuses only on SNSs and deals with the third type. The features of this type of SNS are managed on the Intranet and all members are active employees.

2. Analysis of several questionnaire results

FUJITSU Research Institute conducted four questionnaire surveys. The first two targeted corporate managers, board members, department managers, section managers and assistant managers who let employees use job-related SNSs in their Intranets. These respondents were limited to those who have a grasp on what the job-related Intranet SNSs are being used for. The second two questionnaire surveys targeted

* This work is supported by FUJITSU Research Institute.

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employees who actually use job-related SNSs on the Intranet. These questionnaires were conducted in August 2006 and February 2007.

The questionnaire surveys offer insights into the current Japanese situation to grasp how employees use and how the manager class understands Intranet SNSs. The questionnaire surveys have been conducted on the hypothesis that there is a gap between the employees who use Intranet SNSs and the manager class who allow this use. In other words, the manager class interprets the use of Blogs and SNSs within Intranets in a negative light, while employees hold a more positive view. Furthermore, there is another hypothesis which holds that SNSs help create rich social capital, which in turn makes smooth Knowledge Management possible.

This paper focuses the following parts of Knowledge Management:

1. To exchange awareness or information about clients
2. To share failure and success experiences
3. To find proper and necessary information
4. To cut costs for the collection of information
5. To improve speed for decision-making
6. To widen employees' views
7. To shorten the time to find key persons
8. To acquire knowledge from key persons
9. To interpret that knowledge and apply it to business

SNSs, as typified by MySpace and Mixi, are hobby-oriented tools, and generally Intranet SNSs also cannot cast aside such images. Companies that have these images of SNSs are not uncommon in Japan. Hobby-oriented SNSs have trouble such as altercations and breaches of privacy. In particular, in terms of altercations there is a phenomenon called "flare". It would be impossible to fully anticipate and document all circumstances and possibilities of "flare" occurring on Intranet SNSs. Thus, companies are reluctant to introduce SNSs on the Intranet, and even less so as a tool of Knowledge Management.

Table 1 shows, however, that among the job-related SNS-using companies, the largest number (32.9%) answered "To share job-related experiences or ideas with other employees". This was followed by "To share information on customers and clients between employees" (31.8%), "To share personal experiences or ideas with other employees" (30.9%), and "To share

expert knowledge or skills with other employees" (30.6%).

Table 1. How the companies' employees use the job-related SNSs.

Source: Fujitsu Research Institute Questionnaire Survey, February 2007. N=718 (SNS). Targets are corporate managers, board members, department managers, section managers and assistant managers. Multiple answers allowed.

	Items	(%)
1	To express information from manager class	29.2
2	To develop new products and services among the employees in the same division	18.5
3	To develop new products and services among the employees in different divisions	19.6
4	To send office memo to other employees	29.9
5	To share information on customers and clients between employees	31.8
6	To accept feedback from consumers or clients through direct communication with them	28.4
7	To improve brand image	21.2
8	To manage schedules and equipments	24.8
9	To let employees express themselves creatively	19.9
10	To share personal experiences or ideas with other employees	30.9
11	To share job-related experiences or ideas with other employees	32.9
12	To share expert knowledge or skills with other employees	30.6
13	To influence and compete with other employees	17.5
14	To cheer or make other employees happy	20.9
15	To clip and store important information	17.8
16	To co-create documents between employees	18.8
17	To meet new employees and build networks of contacts	24.0
18	To know hot issues	20.8
19	To examine attitudes of employees	17.0
20	Other	9.5

3. Cases

There are examples of Japanese companies that have introduced Intranet SNSs, and are utilizing them effectively for Knowledge Management. One example is Fujitsu's Intranet SNS.

3.1. Fujitsu's case study

Fujitsu's case has several unique aspects. First, it started from the grass roots efforts of several pioneers, so it

was a so-called “bottom-up” effort. It has spread to their friends, and friends of friends. On the other hand, other enterprises decided to introduce a “top down” approach. Second, collaborative works by employees in different subsidiaries have been shown in some communities. Employees engage in free and spontaneous activities on the SNS though they are not acquainted with each other. Third, there exists rich social capital in the SNS. Employees have mutual consideration through consequences of communication. Even within a closed company environment, the visibility of communication chains among employees from various departments disseminating knowledge from different domains fosters a sense of shared trust.

Fujitsu’s Intranet SNS has been run on a trial basis since November 2005. It is an invitation-based system and currently (April 2007) there are about 8300 registered users. In other words, without an invitation from a user it cannot be accessed. It is accessible to employees belonging to any group within the Fujitsu businesses. Because it is open to the entire Fujitsu group, it provides a forum for people belonging to different divisions to post various thoughts and exchange comments, and is actively used.

Friends gather in the same space, post straightforward and honest opinions in their Blogs, and engage in discussion concerning common issues. The nature of this kind of SNS provides the freedom for users to speak freely and collaborate with others they have connected with in that sphere.

3.2. Hitachi’s case study

Hitachi started an Intranet Blog in 2004. Hitachi had offered its services free to clients to collect users’ views and pass them on to the service development department. Compared with other companies, its service is used primarily with Knowledge Management in mind. This is because intra-company e-mail is done entirely in Blog format in order to promote the efficiency of e-mail. Within the Blog, rich opinion exchange occurs related to work.

There are two merits in e-mail being done in Blog format. First, it is easy to conduct searches afterwards. If keywords are entered, the necessary information is grouped and can be viewed. Second, there are no unnecessary carbon copies (CC). With e-mail, when receiving information via CC it can be unclear who is the provider of the information. However, with Blogs

communities are formed, and the information provider can be set beforehand.

Hitachi is also endeavoring to conduct daily business reports from these Blogs. By writing daily business reports, knowledge related to business accumulates in the Blog, and as time passes personal business resumes are naturally created. If keywords are then searched, leaders or cases of past projects can be checked. The entire Blog can be the target of a search, and as such a statement from or an awareness of a customer recorded by a particular employee can be collected.

At Hitachi, Blogs are used in this way for business, but private journals can be written in informal categories as well. Oftentimes they are journals about personal experiences such as qualification tests or child-raising. Questions and answers are also conducted about these experiences, and they are becoming organized as knowledge of employees.

Information such as child-raising is not directly related to work. However, it can be labeled as business-related information. In this way, exchange of both work-related and other information on the Blog leads to active communication.

At Hitachi, Blogs can be viewed in combination with RSS readers. New information can be viewed, and the speed of information gathering for each employee has improved.

3.3. Casio’s case study

Casio introduced an Intranet Blog in 2005. It was originally designed to revitalize communication within the company. Before the Blog was introduced various sites were scattered within the company, and as a portal site the Blog was thought of as a way to integrate.

The original purpose of “revitalizing communication” was not to have employees write about their everyday experiences, but rather to improve the speed of information distribution within the company. The idea was that the dissemination of information by each employee would make it easier for many to view important information.

Company announcements/bulletins are also posted on the Casio Blog. In addition, the general affairs department provides information on anything from blood donation to administrative procedures.

There are three types of information dissemination from company executives such department heads or the

president: “Information dissemination as the department head”, “Information dissemination as an organization”, and “Information dissemination as an individual”.

Information dissemination as the department head or organization is written to integrate the members of the president’s group company with workers. The style is to begin with a casual topic, and then lead into work-related issues. From employees, it is an opportunity to understand the thinking of the top-class members of the company.

3.4. Collaborative works among different subsidiaries

In Fujitsu’s case, employees from different subsidiaries compile research papers as an output of collaboration, search for knowledge or information from key persons, make use of others’ experiences for their current works, and so on. Cases of success and failure have accumulated in the Intranet SNS site.

Not limited to work issues, employees write Blogs about hobbies or everyday lifestyles. Sharing these kinds of hobbies or values creates an “aggregate sum of approximate values”. The summation of these values makes it easier to pick up on general “awareness” or signs of change among employees that exist within the company.

In our experience at Fujitsu, employees generally do not have many inter-departmental connections without official business contacts. Also, it is rare for employees to communicate with senior workers in different subsidiaries.

There are more than 160,000 employees in the Fujitsu Group worldwide (as of March 2007). They are system engineers, researchers, sales persons, and so on. There are gaps between job descriptions, subsidiaries, age and so on. Even while belonging to different subsidiaries, the employees sometimes deal with similar research topics or work under the same goals. Comments from employees from different domains can serve as hints, ideas and surprises.

Because employees write Blogs not only about work but also about hobbies or everyday lifestyles, Intranet SNSs are more unofficial compared to traditional tools such as Intranet discussion boards. While Intranet discussion boards have official spheres with official information, SNSs include both official and unofficial information from employees. In general, employees will have worries when they express

opinions to the public. For example, they will worry about getting criticized, about whether or not what he/she says is right. SNSs facilitate unofficial communication, thus there is less worrying and employees begin to share job-related information, awareness on clients or consumers, and anecdotes of their careers, experiences, failures and successes. The sharing of this kind of awareness brings about innovation.

In general, topics of hobbies or daily life unrelated to work tend to be thought of as a hindrance to work. However, it is a necessary essence of co-creation or collaboration.

4. Sharing of cases of failure and success

Sharing experiences of failure and success is important for industrial Knowledge Management. A mistake would likely be repeated by other workers, and companies have to prepare countermeasures so employees will not commit the same mistakes again. Also, employees can learn from success experiences and see how to follow suit if the cases are shared.

In Hitachi’s case, as employees write Blogs related to business and this information accumulates, they are essentially creating a database. As daily business reports are written, knowledge related to business accumulates on the Blog, and as time passes personal business resumes are created. The search of this kind of business knowledge can be done with the entire Blog as a search target, and consequently detailed information such as a statement from or an awareness of a customer recorded by a particular employee can be collected.

Diaries on the SNSs that have been written about examples of failure and success can be referenced as manuals especially when there is also a search function within the SNS.

In this regard, without a search function it is difficult to consult cases in advance. There is a huge volume of cases in a company.

Table 2 shows whether or not information about failure and success examples is exchanged among employees on the Intranet SNSs. 67.6% answered that failure or success examples or both are exchanged and employees communicate.

Table 2. Whether or not information about failure and success examples is exchanged among employees on Intranet-Blogs and SNSs.

Source: Fujitsu Research Institute Questionnaire Survey, February 2007. N=1545 (SNS). Targets are corporate managers, board members, department managers, section managers and assistant managers.

	Items	(%)
1	Sharing both failure examples and solutions for them, and success examples and circumstances	34.0
2	Sharing only failure examples and solutions for them	23.4
3	Sharing only success examples and circumstances	10.2
4	Other	0.5
5	Nothing in particular	31.9

Those who responded that failure or success examples or both, in addition to other information, are exchanged on their companies' Intranet SNSs were asked whether or not such examples provide new and beneficial change to their work. The results are shown in Table 3. About 60% (61.5%) answered that sharing failure or success examples or both has brought about new and beneficial change to a great or very great extent.

Table 3. To what extent does the information about failure and success examples provide beneficial change?

Source: Fujitsu Research Institute Questionnaire Survey, February 2007. N=1045 (SNS). Targets are corporate managers, board members, department managers, section managers and assistant managers.

	Items	(%)
1	(Has brought about beneficial changes) To a very great extent.	6.0
2	(Has brought about beneficial changes) To a great extent.	55.5
3	Neither great nor small extent	26.7
4	(Has brought about beneficial changes) To a small extent.	10.4
5	(Has brought about beneficial changes) To a very small extent.	1.3

5. Sharing awareness about clients

Improving labor effectiveness is a common concern of enterprises. According to our questionnaire surveys, job-related SNSs are effective for decreasing time and money for collection of information and improving the speed for decision-making. They are also effective for widening employees' perspectives, shortening the time to find key persons, acquiring knowledge from key persons and interpreting that knowledge and applying it to business.

In the case of Hitachi, the Blog was established with the purpose of improving the speed of information

distribution within the company. The dissemination of information by each employee will make it easier for many to view important information.

Table 4 indicates how much employees' work efficiency has changed by utilizing Intranet SNSs.

Table 4 How much does employees' work efficiency change by using Intranet SNSs?

Source: Fujitsu Research Institute Questionnaire Survey, February 2007. N=1202 (Manager Class), N=. 1642 (Employee).

		Strongly Disagree		Strongly Agree		
			←	→		
Decreased time for collection of information	Employee	2.0	7.2	52.2	32.6	6.0
	Manager Class	1.7	7.5	46.9	36.5	7.4
Decreased money for collection of information	Employee	1.7	9.5	60.7	23.7	4.3
	Manager Class	1.4	9.6	54.0	29.5	5.4
Improved the speed for decision-making	Employee	1.6	7.5	63.1	24.7	3.1
	Manager Class	1.5	7.5	57.5	29.1	4.3
Widened Employees' views	Employee	1.8	8.3	54.8	30.4	4.7
	Manager Class	1.5	7.9	45.8	36.9	7.8
Shortened the time to find key person	Employee	2.2	7.6	57.6	27.4	5.1
	Manager Class	1.5	5.7	48.6	35.4	8.8
Shortened the time to acquire knowledge from key persons	Employee	2.2	7.6	60.5	25.2	4.4
	Manager Class	1.3	5.7	54.0	33.1	5.8
Shortened the time to interpret knowledge and apply it to business	Employee	2.1	8.0	59.7	26.1	4.1
	Manager Class	1.8	5.3	55.4	32.3	5.2 (%)

6. Positive Analysis

To find out how much Knowledge Management from SNSs is related to the output of the organization – in other words the creation of new products, new services and new plans – a covariance structure analysis was conducted. Social capital – as in whether it is an environment where employees can easily consult with others, or whether they trust each other – was thought to have an impact on efficient Knowledge Management. This efficient Knowledge Management, in turn, was assumed to be related to output[†] (Figure 1). “Social capital” and “Knowledge Management” are potential variables, and are comprised of the following.

Social Capital

1. Are employees passionate about pursuing the goals and dreams of the entire organization?

[†] For details please refer to Yoshida (2007).

2. Is the environment conducive for employees to consult or speak with others?
3. Do employees help with external business matters that they are not directly involved with?
4. Are the opinions of employees easily passed onto management?
5. Do employees like the company?
6. Do employees trust their co-workers?
7. When employees engage in inter-company activity, is there understanding from the company or management?
8. When employees engage in inter-company activity, is there financial support?
9. Is there development of products and services that utilizes external networks (such as other divisions of the group, external individuals, or external organizations)?

(Survey questionnaires of all management and employees, five-step answers)

Knowledge Management

1. The time it takes to collect information.
2. The money it takes to collect information
3. The quickness of decision-making
4. The openness of perspectives
5. The time it takes to find key persons for knowledge.
6. The time it takes to inherit knowledge from key persons.
7. The time it takes to interpret information and apply to one's own work.

(Survey questionnaires of all management and employees, five-step answers)

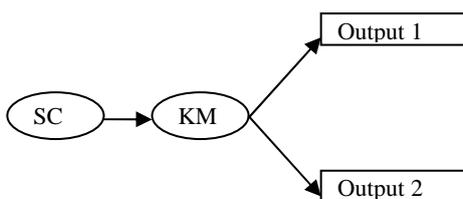


Figure 1. SC is Social Capital and KM is Knowledge Management. Output 1 is new products, and Output 2 is new services and plans.

Here we assumed that the content of the knowledge exchanged would be common examples of success and failure. We examined differences between companies that do and do not share examples of success and failure. Among companies that do share these examples, we

also examined differences between those with more than and those with fewer than 1000 employees[‡].

The results of the analysis confirmed a significant difference in the creation of output among companies that do and do not share examples of success and failure within the Intranet SNS. Among the companies that do share examples of success and failure, and in particular concerning companies with over 1000 employees, the impact that social capital (which was found to have output-creating tendencies) has on Knowledge Management was found to be independent of the number of employees.

7. Conclusions

Making individually dispersed and/or overlapping knowledge and work efficient in a visualized setting creates new values. SNSs make this possible. It was found from the results of the questionnaire surveys that the uploading of “examples of failure or success” in informal settings on SNSs by employees who have contacts with clients leads to new and beneficial changes.

In terms of technical functions of the Intranet SNSs, it is important to have advanced search functions within the system. Keywords for each of examples of areas of expertise, key persons, dates, screens, and etc. are possible.

I realize that further work is needed in terms of the analysis of the questionnaire results. Some doubt remains about whether or not employees use the time they manage to save for productive endeavors. If employees use the time saved for less productive activities, then it is not enough to prove that Blogs and SNSs increase productivity and bring about efficient Knowledge Management in total.

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[‡] For estimates we utilized a questionnaire survey of management conducted in February 2007, screening only those companies that use SNSs.

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