

Knowledge Management in LG-EDS Systems: A Tool for Innovation

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Abstract

The Purpose of this paper is how KM is implemented and executed to reform the organization in the change management aspect and how its current KM can be developed in the future, mainly based on the organizational system, business process, and information system related to KM. This Paper is longitudinal case study of Knowledge Management at LG-EDS Systems. The effective approach to undertake KM is phase. First, it is structured to share explicit knowledge for better performance and then implicit knowledge for best performance. But, This method had some limitations. So, LG-EDS systems integrated KMS-Knowledge Portal-to facilitate cooperation and improve contents quality.

Keywords:

Knowledge Management; Knowledge Management System; Change Management; HR Strategy; CoP(Communities of Practice)

Introduction

LG-EDS systems has made every effort to maintain and strengthen its competitiveness, responding to drastic changes in the business environment. The efforts are manifested in the various forms of innovative activities and some of these activities have led to satisfactory results. However, most of the outcomes were limited and considered as short-term solutions, whereby the fundamental problems still remained as puzzles putting the management in a difficult spot. One of the fundamental problems was the stagnation of productivity that even doing repetitive work doesn't lead to efficient improvement in time and cost, and the other was the difference of quality that deliverables generated through the company's same processes turned out not to be identical. Ultimately, the company has realized that it should change the organization as a whole to solve the fundamental problems. In other words, LG-EDS Systems should have reformed all of the company's organization culture, organization structure,

organizational system and information system rather than simply reinforce its processes or weak points.

Knowledge Management(KM) in LG-EDS Systems has been carried out with such a realization in mind. The management agreed with the original concept of KM that the successful employment of KM does not only depend on simply establishing and operating a Knowledge Management System(KMS), but also on improving the fundamental factors of organization such as organization culture, organization structure, organizational system.(Ikujiro Nonaka *et al*, 1995) Therefore, LG-EDS Systems decided to employ KM as a fundamental reformative tool.

The Introduction of KM and KMS

In the initial stage of implementing KM, LG-EDS systems focused on making the employees recognize the value of KM and managing the employee's behavioral changes. At first, by continuously introducing basic and general information on KM via the in-house bulletin board, LG-EDS systems tried to make the employees feel that some changes were needed. At that time, Professor Nonaka, a world-renowned scholar in the field of KM, visited LG Group and held a seminar, which further increased an interest on KM within LG Group. Through these activities, LG-EDS systems thought that a certain level of understanding on KM has been attained. LG-EDS systems publicized to each business division and department why they should implement a systematic KM within the company and how their KM would be developed in the future. At the same time, LG-EDS systems started to design the process for setting up a KMS. Taking into account the easiness of set-up and user adaptability, LG-EDS systems first defined and implemented the company's explicit knowledge on the system. In consideration of how the actual users would use the system, LG-EDS systems put the utmost effort into making the system as easy as possible. Through interviews with

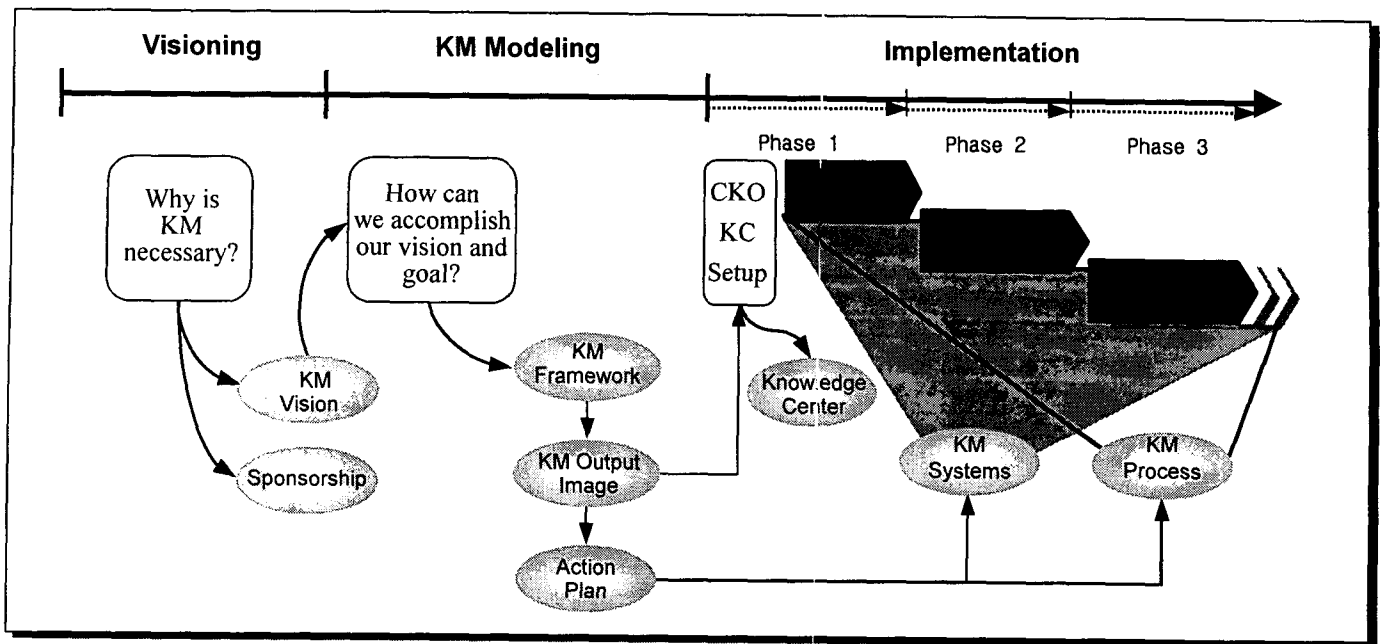


Figure 1 – The operational Strategy of Knowledge Management in LG-EDS Systems

employees at the various levels of employee hierarchy, LG-EDS systems strove to elicit their desires and needs, and these were included in the system. As for system development, system was implemented through in-house development by the best local SI company, LG-EDS Systems' engineers with top-notch technical know-how, making it possible to meet the requirements of the users. The systems at this stage can be put into 2 different categories: One is 'Biz Guide system' and the other is 'Biz History System.'

Biz Guide system is a collection of all standards, methodology, tools and processes of LG-EDS systems, which can be easily utilized by the users. The nature of the company's business - LG-EDS systems supports customers of diverse industries and also utilizes numerous technologies - can lead to a dangerous pitfall in which the business results depend very much on the ability of the project leader and each deliverable can come out differently. *Biz Guide System* has been set in place for the employees to carry out the task according to the company standards (specifications) to ensure an acceptable quality (not the highest quality) regardless of the ability of the project leader. For example, if an employee has to prepare a contract, and he has no previous experience in writing up a contract, then this is really a serious matter. In such a situation, he can access the *Biz Guide system* and get the right advises on what format to use and what items need extra careful attention for writing up. It can be a lifesaver for him.

Biz History system is for store and utilization of final deliverables derived from the tasks performed according to the *Biz Guide System*. Generally, LG-EDS systems is involved in many large-scale projects, generating a large number of deliverables as a result. Before the *Biz History System* was set up, these official deliverables were not maintained at the corporate level but maintained and kept either by the project leader or the department in charge of the project.

As time passed by, there were many instances when these

deliverables were lost for some reason or other.

As the users were now able to browse the system and download the knowledge - company's official specifications, work process and deliverables etc. - in a explicit mode, they were able to experience hitherto unknown facility and increased efficiency during the work. However, the most important result derived at this stage is that an opportunity has been prepared for employees to stick to the basics. Namely, the employees didn't work in a way of his own any more and conformed to the uniform method and procedure provided by the Guide, and the final deliverables were maintained in a form considering future reuse for everyone. In short, the company's basic knowledge has become a common commodity whereby facilitating knowledge sharing and reuse

However, as LG-EDS systems were all getting used to the accumulation and reuse of the explicit knowledge, there was one unsettling point that bothered them. Everyone can have access to the basic knowledge required for a certain task via the Guide, but this does not always lead to highest quality. This Guide only ensures the quality of basic level. What was missing was the actual working knowledge needed during the work to acquire the highest quality. It goes without saying that the quality of the deliverable depends on how the problems encountered on-site were solved. The problem LG-EDS systems are faced with is finding out what such knowledge is and how it will be accumulated and utilized.

Under the conclusion that factors such as organizational advising capability, individual know-how and accumulated intelligence are knowledge that will contribute to solving the aforementioned problems, LG-EDS systems have devised a plan to support them systematically. What came out of it was the *Biz Community* concept. *Biz Community* is comprised of 3 sub categories: 'Knowledge Q & A', 'Knowledge Mall' and 'k-village'. 'Knowledge Q & A' is designed not only to serve as a simple Q & A function of getting the answers but also to serve as a tool for

stimulating communications between members of the organization for sharing tacit knowledge and finding solutions for problems encountered during the work. With just the fact that anyone can ask each and every one for answers to problems that he is encountering, this is a useful system.

Knowledge Mall is a system that enables registering of information, material and know-how acquired from the work. Namely, the system accumulates and shares information that cannot be included in the official deliverables, but needed in carrying out a task efficiently. In the initial phase of the system operation, lack of understanding about the '*Knowledge Mall*' made the some users to register simple news-like articles. However, as the time was passed and more and more important information were registered, it received favorable recognition within the organization.

k-village is a unique system in itself that it supports the activities of CoP(Community of Practice). *k-village* supports members of the organization who have similar interests related to the company's business such as industry, task and technology form a study group and lead activities. *k-village* is definitely a system that supports sharing tacit knowledge among members within organization and raises the capability of the company through this. But this is not the first and the foremost goal. The most important objective is to satisfy the desires of each individual to develop herself/himself further, and enhance and lead each member to develop themselves further more actively.

company only provides material and organizational support needed for their activities. LG-EDS systems firmly believe that the individual member's ability developed in such a way will lead to strengthen the ability of the company. Figure 2 is Illustrated the domain of LG-EDS Systems' CoPs. The number of CoPs is 34. the number of persons is 2,554. The percentage of CoPs is over the 50 in LG-EDS Systems

An early establishing of organization culture for knowledge management and efforts put into for eliciting participation by the members as a whole led to a drastic increase in the quantity of knowledge/information in the KMS. However, the users started finding it difficult searching for information needed due to the huge, increased quantity of knowledge accumulated, and the news-like articles generated by too far competitive mind led to deteriorating quality of knowledge. This finally resulted in increase in user requests for knowledge/information filtering and systematic support for search.

Also, as the 'living knowledge' needed to actively respond to the fast changing technology, working environment and diverse customer needs is inherent with members who have experience and the technical know-how, LG-EDS systems came to devise an alternative plan for a close and substantial cooperation between employees.

Since the living knowledge – experience and technology – that allows active response to fast changing technology, working environment, and various customer needs is immanent in members of organization, we had to come up

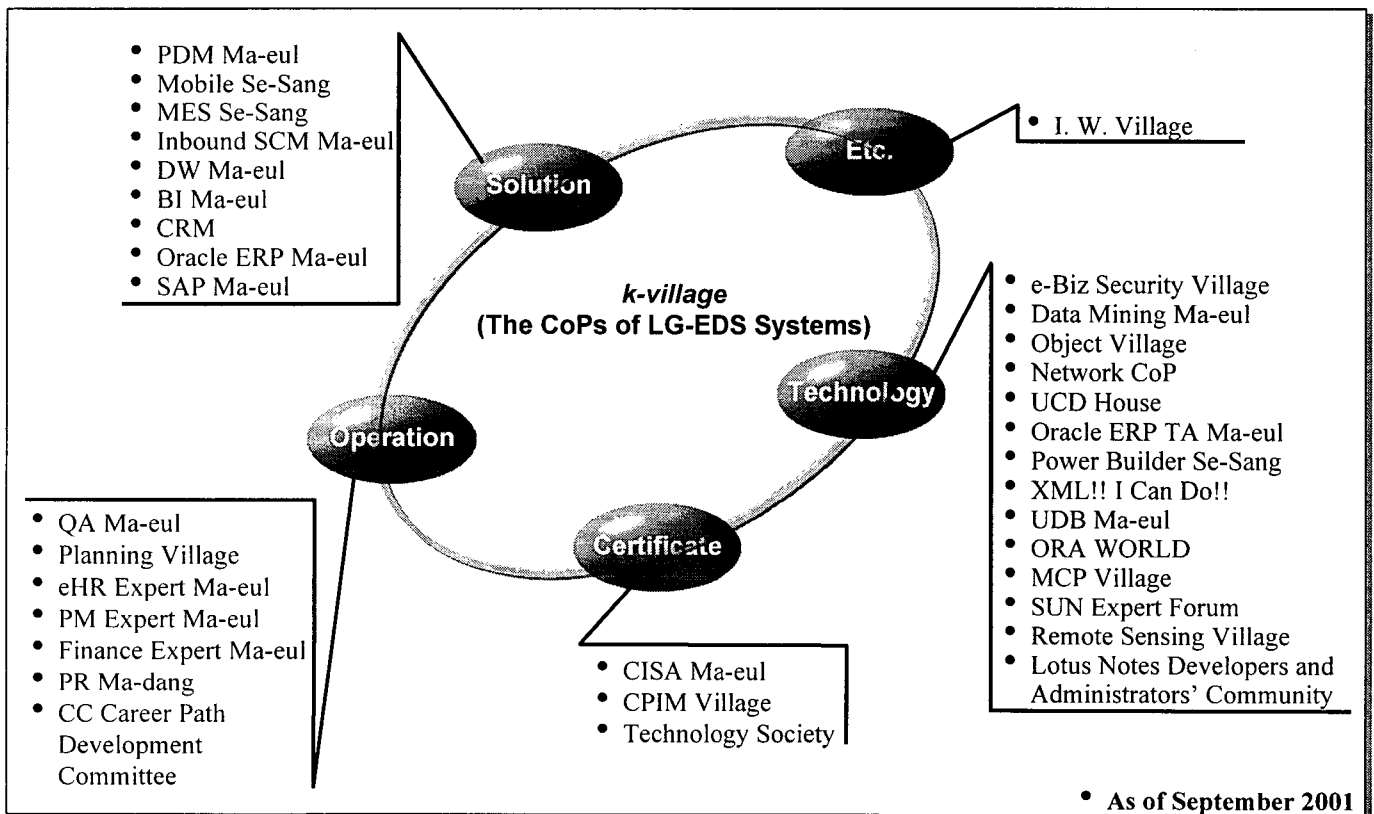


Figure 2 – The Domain of LG-EDS Systems' *k-village*

Therefore, the *k-village* is wholly formed and operated according to the individual member's intentions while the

with an alternative plan to tighten and promote real collaboration among the members and in order for creation

of knowledge, sharing and accumulation to not end as temporary boom or event and be absorbed as members operation, member's KM activity must be recognized as work and establishing organization wide assessment structure, not just an one time compensation but step further, became inevitable

In order for knowledge activities - knowledge creation, sharing and accumulation - not to end as one-time event or a passing fad but to be considered as part of actual work task, LG-EDS systems have taken it up as our duty to include KM activities as part of company work. Establishing an upgraded organizational assessing system rather than simple momentary rewards became a problem to be solved

The integration of KMS – Wis Plus

At the time as new requests about KM were increasing, a large-scale project, changing the in-house IT environment to an Enterprise Portal environment was underway. The Enterprise Portal launched in February 2001 with the motto "A Knowledge Workspace for working Together, Happily and, Actively" defined its underlying concepts as ability to integrate, user oriented, individuality and ability for mutual linking. Along with overhauling the Messaging Infra and the overall work support system, diverse capabilities are implemented in order to strengthen cooperation and information sharing. Knowledge management system is also being designated as

one part of Enterprise Portal.

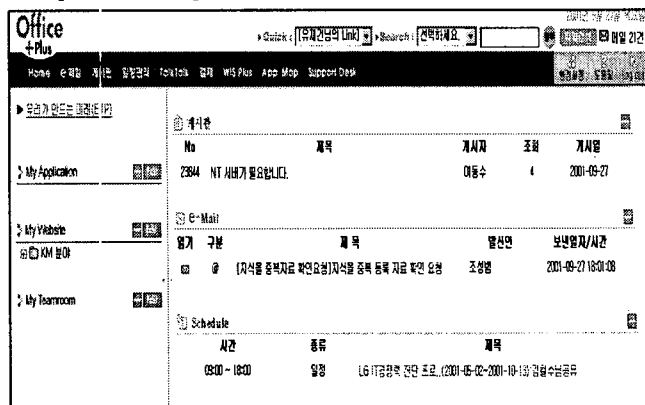


Figure 3 – The Enterprise Knowledge Portal in LG-EDS Systems

The implementation of Knowledge Workspace for cooperation and information sharing can be evaluated as the foundation for a bona fide KM. A bona fide KM does not start from the mere accumulation and store of deliverables, but from the activities increasing the synergy effect like sharing information through harmonious cooperation and interaction. From this viewpoint, the Enterprise Portal project, implementing an infrastructure which makes possible for a more natural cooperation, provided an opportunity for upgrading knowledge management within the organization to the next level.

The individualized knowledge management system developed by the phased approach was divided according to

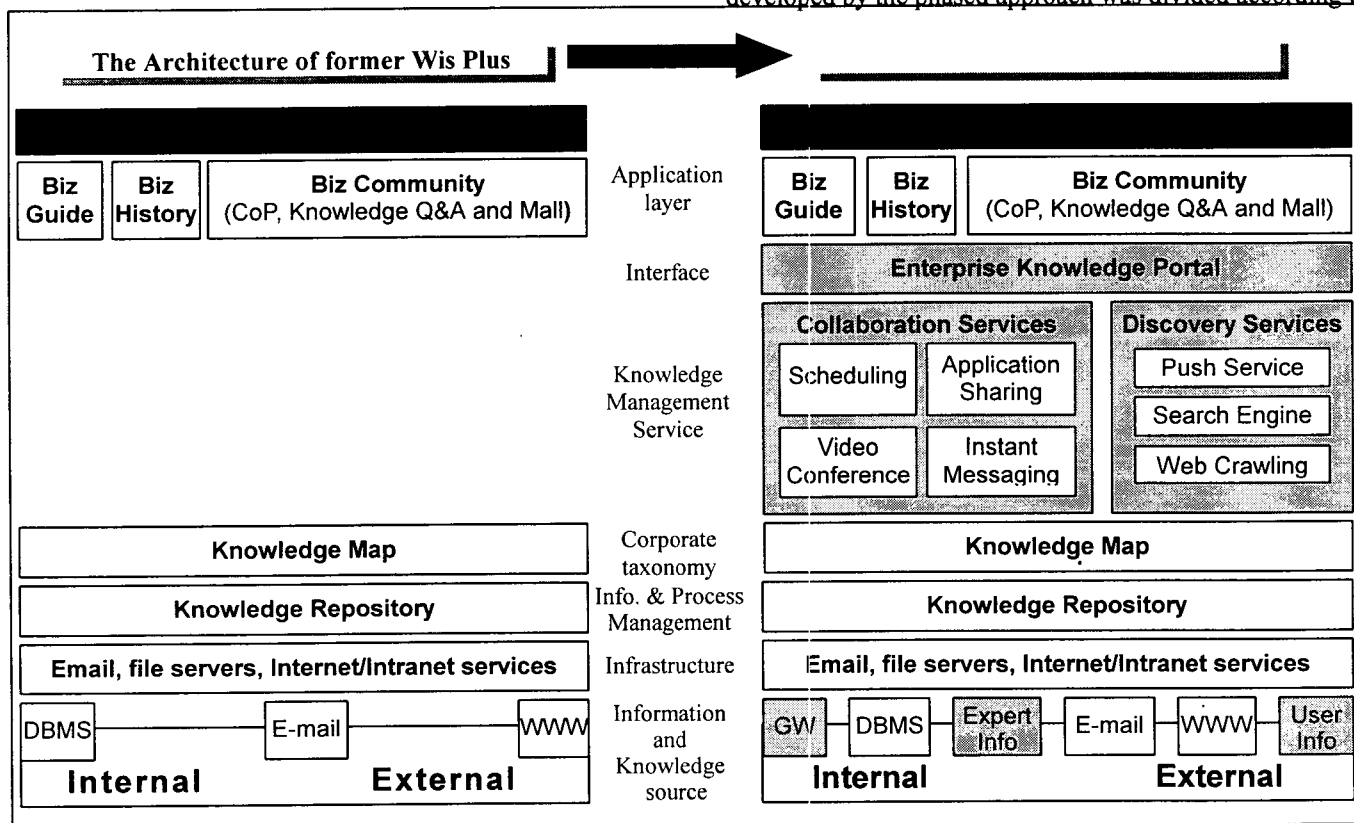


Figure 4 – The Development of LG-EDS System KMS Architecture

knowledge items and the Knowledge Map was also very different in mode among various systems, which was very confusing to the users. The users were interested in only one thing, and that was 'no matter what kind of knowledge, the users wanted to find it in one search attempt.' In order to accommodate the users, we have integrated the separately existing knowledge management systems into the Enterprise Portal under the name of *Wis Plus* and also developed a integrated User-Interface including a strengthened search capability through an installation of a more powerful search engine and integration of Knowledge Map.

Member Information Search

What is of paramount importance is the aid of a specialist when faced with foreign tasks and technical problems. If

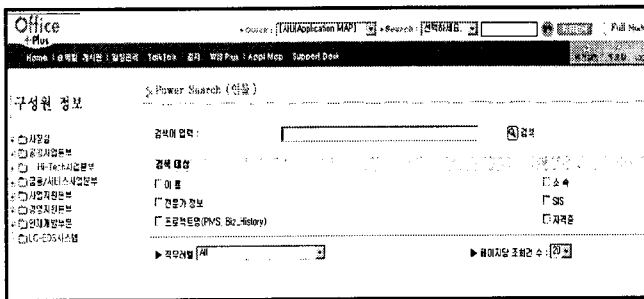


Figure 5 – The Member Information Search

we can get the help of a specialist in real time, then there is not any more efficient method of sharing information than that.

We have drastically strengthened the content that hitherto

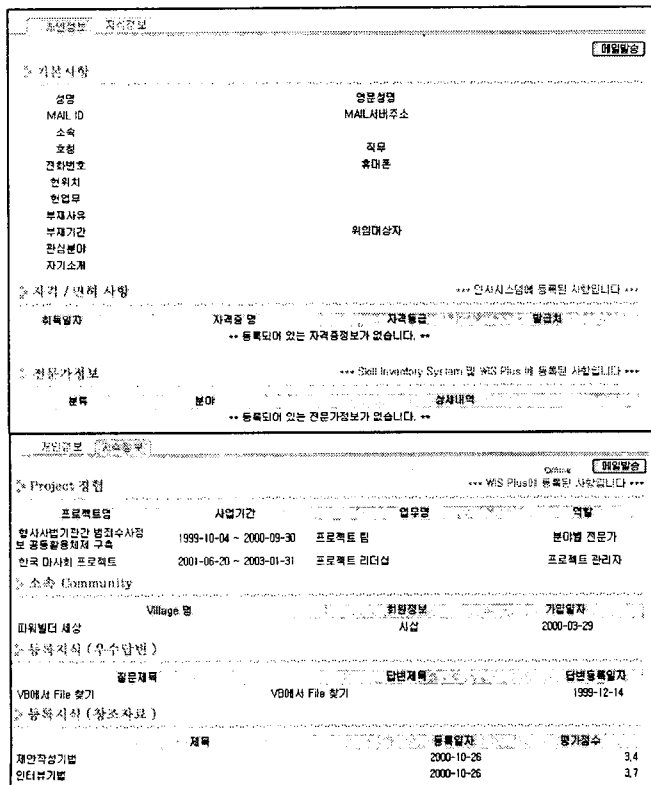


Figure 6 – The Member Information Search Result

only provided the personal contact numbers to whereby it can be used as base content for cooperation.

The information of each member was categorized into details of personal information, specialist information and knowledge information.

Personal information contains personal phone numbers, qualifications possessed and tasks in charge currently; specialist information provides personal work experience and skills possessed. Also through knowledge information, an individual's degree of contribution and knowledge filed by individuals can be viewed.

When the members are faced with special tasks or with technical problems, they can easily look up specialists, view their experiences and skills through a real-time search, and ask their advice.

Providing Push Service

All the knowledge and information stored in the knowledge management system is not needed by every user. Only the knowledge and information is selected that is of interest to each user according to his or her task or area of interest. Even if the person is interested, he or she can not be expected to always search for a newly filed knowledge as the person can be very busy at times.

We have added a new capability, the Push Service, in order to increase knowledge usability of the users. By registering the integrated Knowledge Map and the key word of his interest, and selecting the service period, the user can receive newly filed knowledge/information list with the knowledge management system per e-mail. A direct link has been also established to the original documents via personal e-mail lists eliminating previous cumbersome method of searching for updated information, and desired knowledge/information can be always utilized.

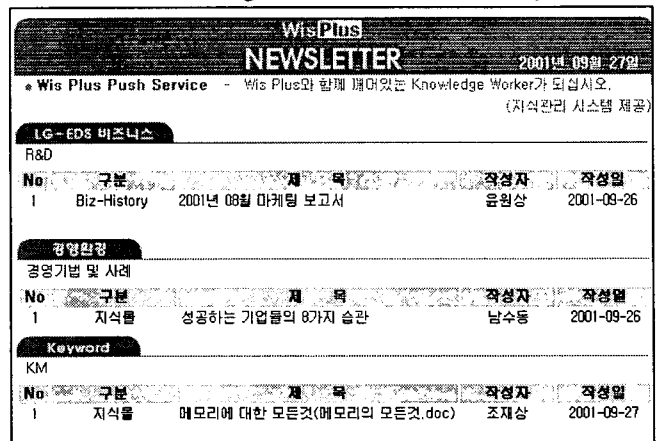


Figure 7 – The Push Service Mail

Implementation of Real-time Cooperation Tool

In order to overcome the geographic obstacle of employees working spread around the land due to the business nature of LG-EDS system requiring working with customers at various geographic locations, we discovered the need for the implementation of communication tool that is more efficient than the conventional telephone or e-mail. So as to meet such demands, real time cooperation tool such as

remote conferencing including features like Instant Messaging, application sharing and white board capabilities has been implemented.

After searching the specialist information, employees can directly open the instant messaging window and get real-time advises, which brings more intimate and natural cooperation. At last, it has realized that work is processed through Internet conference among workers in different locations, and presentation materials are shared.

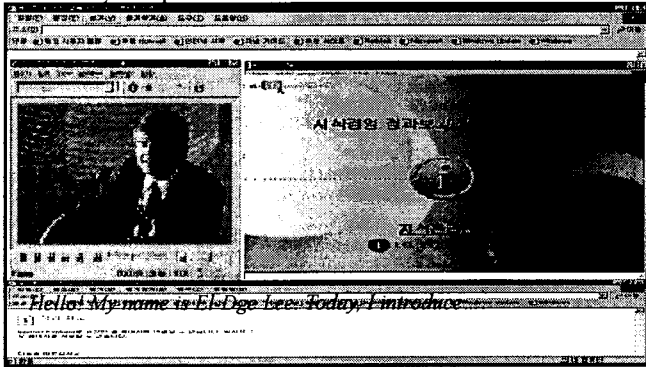


Figure 8 – The Real-time Cooperation Tool

Space for Cooperation

We have established work-groups in the form of a sort of address list so that people working together can be reached easily and quickly at any time for communication sake, and cooperation space for only those work-group members can be set up.

The useful information such as tips on tasks, official announcements and meeting minutes are registered freely and used through the cooperation space in the form of a bulletin board.

It is expected that such a cooperation space will contribute to establishing a cooperation culture, which shares information freely, not to mention creating an especially close bond among those working together.

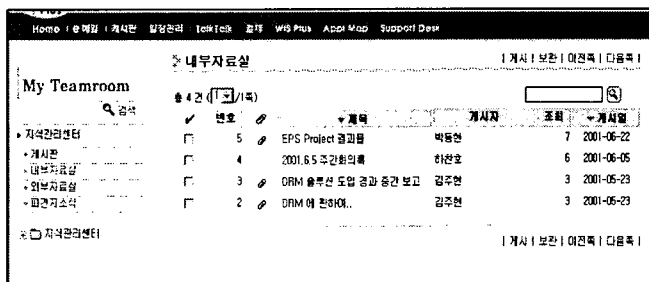


Figure 9 – The bulletin board for Cooperation

Improving the Quality of Contents

As an effort to achieve improvements in the quality of the knowledge accumulated and used, we have plans to strengthen the filtering process of knowledge/information stored in KMS. Those who generate and register information that is considered valuable will gain high scores, and we have plans to monitor the system continuously to accumulate the knowledge of the highest

quality by erasing from the system brief information pieces or news-like information through periodic filtering.

In addition, we are generating a package form of knowledge called Knowledge Pac by generating the knowledge of good quality by consulting groups comprised of experts carrying out the task that is of hot issues.

As an IT company like us that does business by utilizing an ever-changing information technology, it is of paramount importance to acquire cases of new technology applications and trends which should be comprehensive information on a certain subject matter reviewed by experts, not some short pieces of information.

These kinds of attempts induce creation of expert networks for each subject matter and content packaging, and we expect that this will be the starting point for content management and set up of personnel infrastructure.

Implementing a bona fide assessment of Knowledge Management (KM) activities

KM activities of employees are not just extra curricular activities anymore.

In order to adopt KM as a definite management strategy, it is of highest priority to provide incentives to employees. The artificial rewards and special events are limited in effect and not enough to provide incentives continuously.

It is intended that KM activities should be included as an item in the evaluation index in order to set up institutional devices, which recognizes that it is a kind of one's task duty to generate knowledge of each person's field and to share the knowledge.

Also, by improving current knowledge mileage system more impartially, the effectiveness of online and offline KM activities such as the writing up forms for knowledge and know-how derived from each task field can be measured and evaluated.

In addition, plans are in the works for evaluating employees who contributed to improving study skills within the organization and sharing tacit knowledge in the form of knowledge club activities or expert networks.

It goes without saying that continuous efforts are needed to develop the evaluation standard that is understood fairly and impartially among the employees. It is also expected that 'the changes in the way of working' through the setup of system will also be one of the most important elements in creating a corporate culture suited to a knowledge society.

LG-EDS Systems has plans to make a development of KM as one of the most important management strategies through establishing and consolidating systems and makes efforts to lead the 'changes in the way of working' and to create a corporate culture suited to a society of knowledge.

Even with the drastic changes in the environment, maintaining and strengthening a company's competitiveness is a task that every company faces on this earth. Especially, with the speedy establishment of globalization and informatization, changes are occurring more rapidly as

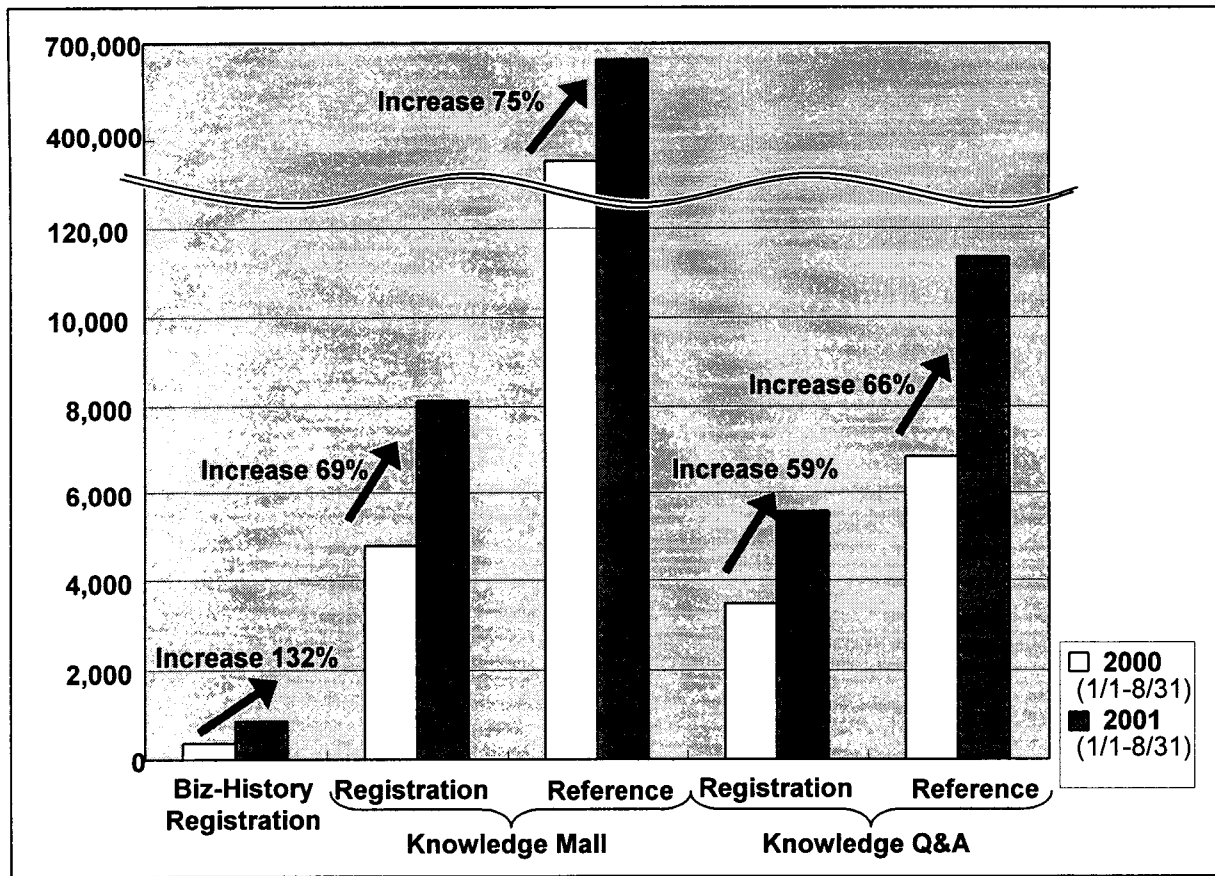


Figure 10 – The Usage of Wis Plus

ever and competitiveness is becoming fiercer. To survive in the competitive environment, a company should actively deal with this protean business environment and furthermore, should be in the vanguard of change. Therefore, innovation in management and work is the most important factor for a company's survival, and LG-EDS systems regard knowledge as the motive of innovation. In other words, only the companies that continuously create new knowledge and use this knowledge to effect are able to hold on to the position as a major player in this global age of limitless competition.

LG-EDS Systems has adapted to changes through diverse innovative programs and continual investment on training and information technology, and has strove to strengthen its competitiveness. Despite partial success of these efforts, they didn't lead to improvement in its organizational culture because these efforts weren't linked with in-house systems, ultimately ending as short-term activities. And LG-EDS Systems' organization structure characterized by Strategic Business Unit(SBU) and Strategic Support Unit(SSU) led to lack of communication that in turn caused an absence of information/knowledge sharing. Consequently, problems caused by its organization structure were the main obstacles to innovation.

Conclusion

The management has recognized these problems and tried to change all facets of its organizational culture into

horizontal, talent-oriented, change-oriented and cooperation-oriented one. In order to transform its organizational culture, LG-EDS systems should have improved the training system, the personnel system, the assessment system and pay system. Furthermore, LG-EDS systems has come to the conclusion that a systematic support is necessary for revitalizing communication within the organization and for sharing information and knowledge. In the end, LG-EDS systems decided to employ KM as a innovative tool that could reform the organization.

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