The Development of Multi-Weblog with Knowledge Management for Thailand’s Higher Education

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Abstract—The research study was aimed at developing multi-weblog with knowledge management for Thailand’s higher education. The study focused on behaviors in knowledge management; and, attitudes and satisfaction towards the deployment of multi-weblog in knowledge management. The sample subject group was consisted of 35 lecturers and selected staff at King Mongkut’s University of Technology, North Bangkok (KMUTNB). The research results revealed that: 1) The analysis of the design and development of multi-weblog applications in knowledge management for Thailand’s higher education institutions found that the elements of the multi-weblog were consisted of a system operator, link administrator, a subscriber administrator, a webboard administrator, and a blogger. 2) The study also analyzed the behaviors of lecturers and staff to determine their competence and expertise toward knowledge management for weblog applications. The results of the analysis showed that most of the lecturers and supporting staff had less than 5 years experience, 5-10 years in computer application, 5-10 years in the Internet, and a moderate weblog practice. The duration of weblog usage was everyday that lasted for about 1-2 hours in each use. The frequent time to write a blog was between 5:01-11:00 pm. Information and messages loaded on the weblog were less than 3 information and messages. The place and percentage of weblog users who used to log on using this application was in an Internet café and accounted for 50%.

Keywords—Multi-Weblog; Knowledge Management; Higher Education

I. INTRODUCTION

Thailand’s Tenth National Economic and Social Development Plan (2007–2011) enhances value-added people development, coupled with virtuousness and morality, and well-prepared for encountering changes and keeping paces to knowledge-based society [1]. Although there is great interest and considerable investment in adopting technology within Higher Education, it is less clear what this change means to the people who implemented or experienced it. Presently, there is no consistent framework used to study and explain this phenomenon [2]. Consequently, technology development along with the knowledge-based society is significant to Thailand that requires this kind of progress.

Presently, the development processes require abilities, efforts, and considerable investment in knowledge-based society which employs special management and separately process to handle with. Lecturers have to digest knowledge as part of teaching to smooth the progress and to easily understand by the learners. Future lecturer roles incorporate knowledge management in their teaching and learning processes. Some need additional training in this area to enhance performance. It seems that in terms of knowledge-based economy and knowledge-base society, higher education systems are noticeably adapted to accommodate transitions and trends. Some higher level institutions turn to research universities for international competitiveness, as well as economic driven power for competitiveness. Knowledge management is a key concept in modern management that considers and values people in organizations as valuable human resources, resulting from rapid global changing social environment.

As a result, knowledge management plays a vital role in higher education with 3 objectives:
1) to develop tasks for better quality and effectiveness; 2) to develop human resources in all operating levels, especially for those in a medium and low levels, and 3) to develop “knowledge bases” of organizations or sectors towards the enhanced knowledge investment or wisdom investment of the organizations. This process also help the organizations to establish more prospective ability on encountering difficulties or other future uncertainties [3]. It is a must for higher educations to operate knowledge management as predetermined in a higher education policy. The Office of the Higher Education Commission’s [4] regulated terms and conditions of internal quality assurance, compliant with the Manual of Internal Education Quality Assurance of Higher Education Institutes under the Office of Higher Education Commission. Therefore, the King Mongkut’s University of Technology, North Bangkok, performs and operates the internal quality assurance under the criteria set up by Education Quality Assurance Center [5] which imposed factors associated with knowledge management in Element 7, Indicator 7.3 by setting up the development of a learning sector within an institution.

It is apparent that knowledge management is an important process for higher education institutes that are integrated in the knowledge management plan of the Office of Higher Education Commission, and it is also used as criteria in organizational assessment of the Office of Thai Public Sector Development. On the other hand, many
problems that caused by culture differences of various organizations in higher education were the lack of knowledge and unfamiliarity of each others’ culture. So, information technology is an essential tool in knowledge management for higher education in Thailand.

Weblog is a very useful tool which was created along with information technology that is widely used in knowledge management. Weblogs are created in a wide variety of forms for knowledge management applications. For example, Chantawan Piyawat [6] defines a Weblog or Blog as a webpage used for writing a journal in daily life for communicative purposes to express feeling, personal thoughts, point of view, experiences, knowledge, and news or discussions of a blogger, whose interests were written. These characteristics were made differently from a webboard. The feeling and opinions expressed in a weblog are free and sincere to the best of a blogger in expressing their self and personality as the author, causing an increasing use and number of weblog users in international arenas.

The characteristics and features of weblogs exhibit represent: frequent story writing by a blogger, well-organized display in chronological order from top to bottom of a webpage, links to other resources concerned. Weblog is not only a journal and interesting topics for the public and for the purpose of dissemination; it is also a collection of links to other sites for knowledge resources or other weblogs. Journals written in a blog were classified into main headings to make it user friendly, and it is also convenient for blog visitors to read related topics and stories. Blog visitors are able to write their comments on the stories or information they read which is beneficial to knowledge exchanges among bloggers and visitors.

Weblogs are written systematically as open sources, but they are represented individually. For instance, registered weblog authors and interested individuals exchange their knowledge together in their own group. Though, some blogger have several weblogs, they can’t exchange discussions among members of weblogs in their own group; they have to participate separately in each weblog. In case the development of weblogs in the same organization and area are interlinked and exchanged simultaneously, knowledge management exists in the organization by employing hyperlinks of keywords in manners of collaborative integration of a single weblog into a multi-weblog. Knowledge management on weblogs is an interesting stimulus for the increasing number of frequent visitors and also web-enhanced role of weblogs [7].

Most of Thailand’s higher educations institutes are well prepared to carry on knowledge management through the executions of executives, lecturers, and supporting staff. In order to carry on knowledge management, the researchers develop a multi-weblog for knowledge management in higher education including study on behaviors, opinions, and satisfaction of weblog deployment by KMUTNB’s lecturers and staff to be used as guidelines and threshold of the development of knowledge management for various fields of study. They also used the application as the standard example of higher educations institutions. The applications of multi-weblog in knowledge management not only enable lecturers and staff to be more progressive and effective in teaching and learning at the same time, but, to be more competent especially for competitive atmosphere in higher education and quality improvement of education for graduates.

II. Research Objectives

To analyze, design, and develop multi-weblogs for knowledge management in higher education.

To study behaviors in knowledge management by using multi-weblogs of lecturers and staff.

To investigate behaviors, opinions, and satisfaction in knowledge management by using multi-weblogs of lecturers and staff.

Populations used in this study were part of KMUTNB’s 1,732 lecturers and staff. The total number of sample subjects who volunteered was 35. These volunteers are composed of 15 lecturers and 20 staff. The variables employed in this research were independent and dependent variables. Each of these variables was designed to analyze different aspects and scenarios. For instance, independent variables are designated and contained knowledge management multi-weblogs of KMUTNB’s lecturers and staff. On the other hand, the dependent variables included behaviors in knowledge management, opinions on knowledge management, and satisfaction of multi-weblogs.

III. Weblog Development Procedures

The researchers developed multi-weblogs for knowledge management in higher education with procedural operations from the development, testing, experiments, training, and authentic experiences with lecturers and supporting staff of the University. The research results revealed that:

The analysis, design, and development of multi-weblogs for knowledge management in higher education showed that multi-weblogs mainly consisted of system operators, hyperlink administrators, subscriber administrators, web board administrators, and bloggers. Each element incorporated as follows:

1) A system operator’s role is to add, delete, edit, examine, and disseminate posted blogs of the members before delivering them to the public. Sub-categories in this element are category management and article management.

1.1) Sub-categories of category management 1.2) Sub-categories of article management

2) A hyperlink administrator manages hyperlinks for the system operator to add, delete, or update web-link information, to create new group of web-links or re-classify, delete, or modify a group of web-links.

3) A members’ administrator manages registration systems for a system operator by adding, deleting, or updating a number of members.

4) A web board administrator’s role is to add, delete, or update web board information for a system operator; to create new web-boards; to add a group of new web-boards and classified by types; to delete a group of new web-boards; and, to update a group of new web boards.

5) A blogger, or a registered member of a weblog’s function is to write new stories, blog management, additional
websites, and personal profile updates. A sub-category system includes: 5.1) Writing of new stories 5.2) Blogger management 5.3) Additional websites 5.4) Personal profile update.

IV. RESEARCH FINDINGS

From the analysis, design and development of knowledge management for higher education institutes, it was found that a multi-weblog was consisted of main systems which comprise a system operator, a hyperlink administrator, a subscriber administrator, a web-board administrator, and a blogger. Each system incorporated a system operator which is composed of category management, and article management; a hyperlink administrator which comprised creation of new groups, addition, deletion, and updates of web-links; a subscriber administrator comprised the addition, deletion, and updates of members; a web-board administrator for the creation of new web-boards, addition, deletion, and update of web-board groups; and a blogger to create new stories, management, website addition, and personal profile updates.

The study of behaviors in knowledge management administered by multi-webslogs of lecturers and staff revealed that 82% of the respondents were mostly female, and 78% were supporting members, respectively. Work experiences were mostly below 5 years, accounted for 46.4%. Experiences in computer applications were ranging from 5-10 years, accounted for 60.7%. Experiences in the Internet were ranging from 5-10 years, accounted for 57.1%. Experiences in weblog applications were mostly in a medium level, accounted for 39.3%. Frequency in every day’s blog applications were accounted for 35.7%. Duration of blog applications from 1-2 hours were accounted for 53.6%. The length of time of writing a blog was from 5:01-11:00 pm, accounted for 46.4%. A part of information loaded on a blog was less than 3 pieces of information, and was accounted for 46.4%. The place where the blogs was used was in the Internet café, accounted for 50.0%.

The results of the study regarding opinions and satisfaction of knowledge management by a multi-weblog of lecturers and supporting staff revealed that overall opinions towards knowledge management by employing weblogs were high. When considered in each factor, it indicated that the first priority was to support lecturers and staff in loading their knowledge on the weblogs. The second priority was to submit articles and innovative knowledge on the weblogs for the public rapidly. Knowledge exchanges should be done on a weblog. The KMUTNB should have own its own blog to publicize knowledge innovative information, enabling time and cost savings, instead of conducting meeting. Weblogs should be used as a tool to disseminate knowledge to the public and as an alternative to communicate fast, and more convenient to those bloggers who used the system as a channel to present personal articles and ideas. Finally, the opinions indicated that blogs were used as a tool to present sound and appropriate knowledge.

The satisfaction on knowledge management employing an overall weblog was high. When considered in each factor, it indicated that, firstly, weblog formats were easy to use and personal profile was easy to update. Secondly, the process to log on a system was easy and simple. Submission on the blog was convenient, speedy, and easy to read. Weblogs enable us to record and load a wide variety of information. Searching information presented by professionals on weblogs varied, including fun and friendly contents that also helped us to find new jobs. Lastly, it enabled us to sell goods on the Internet via weblogs.

V. DISCUSSION

From the development of multi-webslogs for knowledge management for higher education through the study conducted on behaviors, opinions, and satisfaction of the KMUTNB’s 35 participants, which was composed of lecturers and supporting staff, the researchers discuss the results as follows. Results from analysis, design, and development of a multi-weblog in knowledge management for higher education showed that, the multi-weblog consisted of main systems which included a system operator, a hyperlink administrator, a subscriber administrator, a web-board administrator, and a blogger. When considered from multi-weblogs systems, it exhibited that the systems were compliant with standards of web management. A system operator was able to manage topics, add, delete, and edit articles and posts carried out by bloggers. In multi-webslogs, bloggers were able to view information written by other bloggers in the same blog, but unable to add, delete, or edit others’ information. These activities were in accordance with the research’s objective that the development of a blog was capable of displaying the information of individuals, but information management was oriented to the community. Every blogger was able to view others’ information of the subscriber in the group, or to link their own hyperlinks to the blogs of group members, that was according to the research objective.

The results from the study of behaviors on knowledge management employing a multi-weblog by lecturers and staff showed that, the participants had below 5-year work experience, experiences in computer application from 5-10 years, experiences in the Internet application from 5-10 years, moderate experiences in weblog applications, frequency, duration of time spent in a weblog each time by 1-2 hours, a period of each time in writing blogs was from 5:01-11:00 pm., the number of information loaded and shown on the blog was less than 3 pieces of information, and a place to log on the weblogs at the Internet café was accounted for 50.0%. From the results of studies, it was found that most lecturers and staff were interested in knowledge management by employing a weblog, which was in accordance with the research conducted by Price and Oliver [2]. Lecturers and staff who had less working years and less work experiences paid more interest, showing that this group was much more likely to give attention in new technology. It was also found that experiences in computer applications and the Internet enabled them to have expertise in computer technology that leads them to behave like very familiar with weblogs application.
In behaviors of multi-weblog applications and operations, it exhibited that most weblog users write blogs 1-2 hours everyday because the application of the Internet enhanced the application of the weblogs. Hain and Back [8] stated that weblogs were used on individual learning processes in a university environment as an instrument of learning reflection or a learning journal. Weblogs have emerged with the paradigm of Web 2.0 and user-generated content and have gained in importance through the various evolving application contexts. In this research, lecturers and staff employed weblogs in the evening because they were not convenient to use it during working hours; while they felt that weblogs were not partly considered as their work, they were opted to use applications of weblogs in the Internet café, instead of doing it in their workplace or in the offices. It was also recommended that those applications of weblogs in knowledge management should be promoted as a part of their daily routine. The results obtained from opinions and satisfaction in knowledge management employing multi-weblogs by lecturers and staff revealed that opinions on knowledge management by weblogs overall were high. When considered in each factor, it was found that participants should be encouraged to present their knowledge on the blogs at the first priority. The next priority was the submission of articles and innovative knowledge should be posted to the public rapidly, which was in accordance with Namwar and Rastgoo [9]. They stated that using weblog in higher education would also change the roles of teacher and in these environments, teachers are not anymore represent of texts and materials but helped them to do and work by themselves. In a learning environment, weblogs enabled students to easily maintain online learning logs to represent their activities. In this research, lecturers and supporting staff all agreed that knowledge exchanges would be made on the blogs and the KMUTNB should have its own blog to publicize knowledge innovative information, enabling time and cost savings, instead of conducting costly meeting. Weblogs should be used as a tool to disseminate knowledge to the public.

VI. CONCLUSIONS

The development of weblogs enhances proficiency in knowledge management for lecturers and staff of the KMUTNB because it is easy to use and less complicated with no troubles in operating functions. Users feel easy with the system, so it should be emphasized at its own convenience, rather than complexity or for being sophisticated in other way. This Knowledge management, by employing multi-weblogs, enables the blogger community to be more useful than knowledge management, which employs a single weblog because in a single weblog environment, users are not possible to know who is currently online and can’t view the knowledge information of other bloggers who are also in the same community. Therefore, knowledge management employing multi-weblogs made the weblog community to more convenient and encourages users to exchange and share knowledge. Higher education institutes require operating knowledge management in their institutes, but not necessarily to a large group of community. Applications of multi-weblogs are handling a specialized group of areas or sectors and exchanging tools are simple that all users are able to view information presented by all subscribers in a group. Thus, multi-weblogs are suitable for knowledge management in higher education which is considered as a sample of learning.

REFERENCES