THE DEVELOPMENT AND EXPLORING THE EFFICIENCY OF KNOWLEDGE MANAGEMENT SYSTEM IN THE WISDOM OF POTTERY INDUSTRY IN KO KRED COMMUNITY, NONTHABURI

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Abstract

This study aimed 1. to analyze the pattern of performance and the needs of knowledge management system in the wisdom of pottery industry, 2. to develop the knowledge management system in the wisdom of pottery industry, and 3. to explore the efficiency of knowledge management system in the wisdom of pottery industry in Ko Kred Community, Nonthaburi. The study was based on qualitative research and using the information technology technique for analyzing the data. The researchers did the literature review to identify the problem statement. The finding from the in-depth interview confirmed that there was no knowledge management system in the wisdom of pottery industry in the community. The knowledge management system in the wisdom of pottery industry in Ko Kred Community, Nonthaburi was then developed by researcher. Moreover, the system has been evaluated its efficiency by 15 experts, who were 9 technical specialists and 6 designers, using the White Box Testing. The result showed the system was correctly designed, and the evaluation of its efficient was in a good level.

Keywords: Knowledge Management, Knowledge Management, System, Wisdom

1. Background

Nonthaburi province is located in the central part of Thailand. Though, the area of the province is small, there is a large density of the population, next to Bangkok. Its area is low plain with abundantly farmland (Secretariat Office, Board of Support Community Business Enterprise, 2013). Nonthaburi has many ethnics, especially Mon community, who are mostly live in Ko Kred. Mon lifestyle is interesting to study, as they still keep their own culture and tradition. Mostly, the occupation of Mon is family industry. The famous and well-known one is the pottery industry, which they made for appliances and souvenirs. Researchers did the primary review and the interview, found that there were many ways to transfer the wisdom of pottery industry such as from parents to children or relatives, from the experts and from learning by doing. However, there was no knowledge management in the wisdom of pottery industry in the Ko Kred community. There was also no system to collect, exchange and store all the knowledge (Ramkomut, 1999).

According to the development strategy in the Eleventh National Economic and Social development Plan, this study aimed to develop the knowledge management system in the wisdom of pottery industry, and explore the efficiency of knowledge management system in the wisdom of pottery industry in Ko Kred Community, Nonthaburi. Relevant theory, research study and technology have been used to apply for the system development, which will be presented in the next chapter.

2. Relevant theory and research

Information Technology (IT) is the tool and technique that has been used for the design and information development. IT also includes hardware, software, database, telecommunication and client- server system (Turban, 2001).

System Development Life Cycle (SDLC) is the process to develop the information system, aiming to solve problem and add value for the business management.

Knowledge management is the procedure that relating to the selection, systematization, distribution and exchange information/knowledge and expertise (Turban et al., 2004)

Knowledge Management System (KMS) is the system for managing knowledge in the organization. All the knowledge and expertise is collected and shared in the form of information (Jennex and Olfman, 2002).

From the review, both domestic and international document, one can be clearly seen that there is a strong interest on the management of knowledge and the application of local wisdom to business management. Useful outcomes have been produced such as innovative knowledge (Taylor, 2004) and knowledge linked to business process. In the new era, a business company will be a knowledge-based organization (Sintrakarnpon and Makasiranon, 2012). The application of knowledge to business management starts from knowledge creation, knowledge codification and refinement, knowledge exchange, and knowledge innovation. In practice, knowledge management has been integrated from routine working and technology (Ruggles, Rudy in Wongprasert, 2005)

The Development and Evalution of Knowledge Management System for Supporting Staff of the Office of Academic Promotion and Registration: Case study Rajamangala University of Technology Suvarnbhumi (Prommakorn, et.al., 2012) has studied on the efficiency and the development of knowledge management system for the supportive staffs, a case study in the Supportive Academic and Registration Office, Rajamangala University of Technology Suvarnabhumi**.** The tools were the Knowledge Management System, developed by the researcher, and the evaluation form, done by the experts. The result showed the accuracy of the Knowledge Management System, according to its design. Moreover, the efficiency was in a good level.

3. Methodology

The researchers used the relevant information to develop and explore the efficiency of knowledge management system in the wisdom of pottery industry in Ko Kred Community, Nonthaburi. The questionnaire was the main tool to collect the data. The samples were 15 experts, including 9 technical specialists and 6 designers. The knowledge management system in the wisdom of pottery industry in Ko Kred Community, developed by researcher, were the main tools for this study. The system was evaluated by the all experts.

4. Discussion

The evaluation of the system, developed by the research, has been done by the 15 experts, who were 9 technical specialists and 6 designers, using the White Box Testing. The evaluation form included the accuracy of the system and the efficiency on data processing and data collection. The evaluation on the efficiency has been considered more on the various topics, including 1) working capacity meet the need of users, 2) function of program, 3) system operation, and 4) safety of the system. The results from the evaluation showed that, in overall, the system was efficiently working, with the mean score of 85.77%. When taking a closer look to the different topics, we can see that the most score was ranked in the function of the program (87.13%), followed by the working capacity meet the need of users (86.75%), system operation (86.00%), and the safety as there was a username and password system for the members to access to the system (85.55%), respectively, as shown in the figure 2.

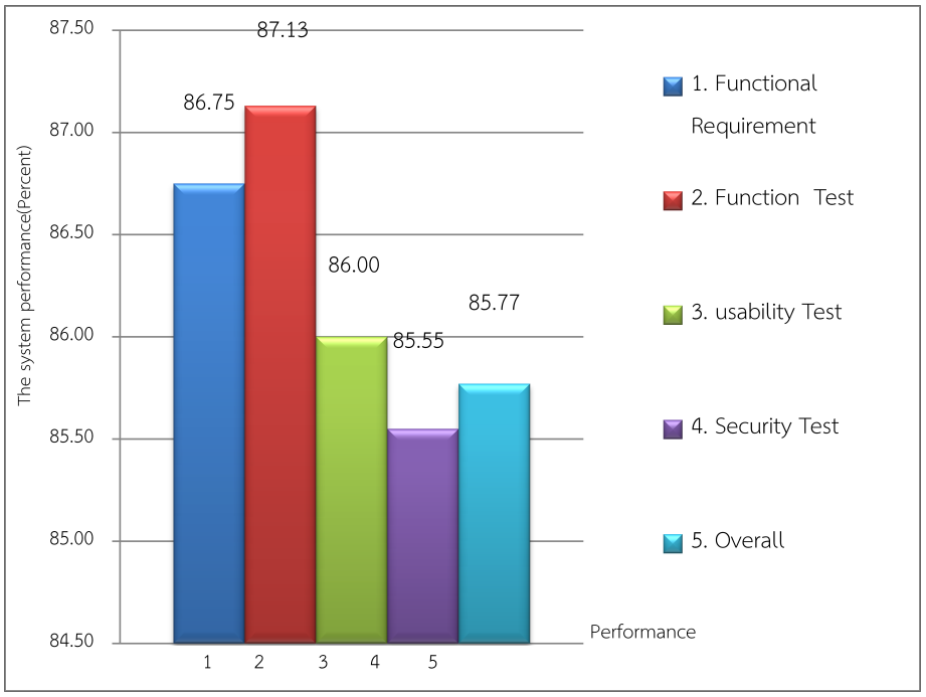

Figure 2: The summary result on the efficiency evaluation

The development and exploring the efficiency of knowledge management system in the wisdom of pottery industry in Ko Kred Community, Nonthaburi has been done to support and exchange knowledge, with the main aim to response the need of the users. Users can really apply the system. The guideline of system used has been presented in the figure 3.

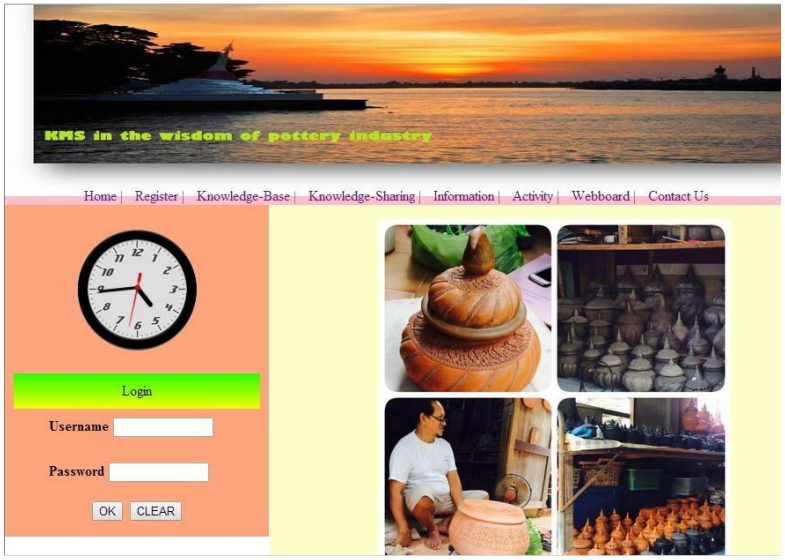

Figure 3: The main page of the system

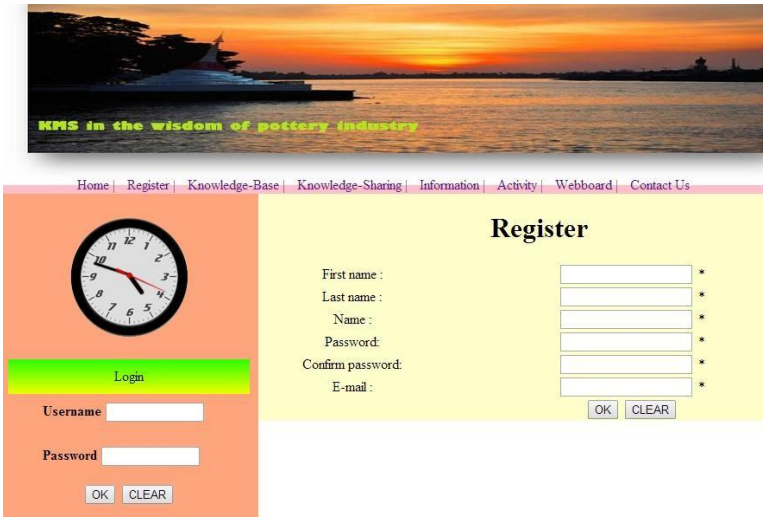

Figure 4: The member registration page

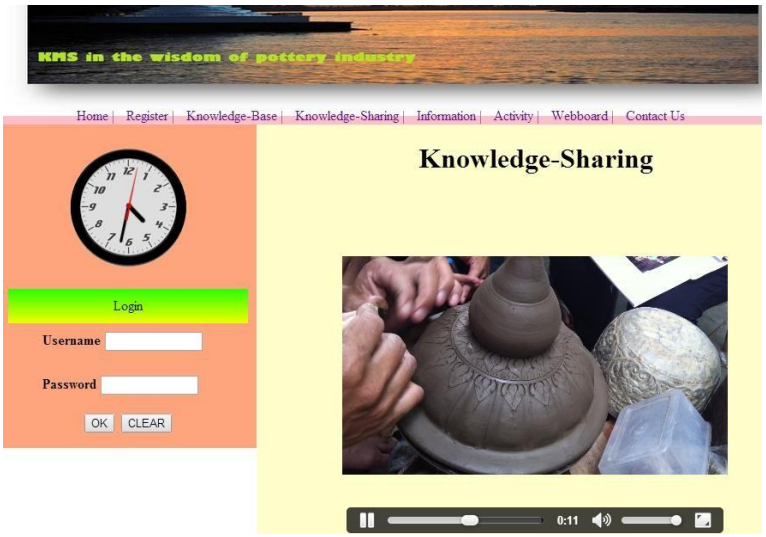

Figure 5: The exchange knowledge page

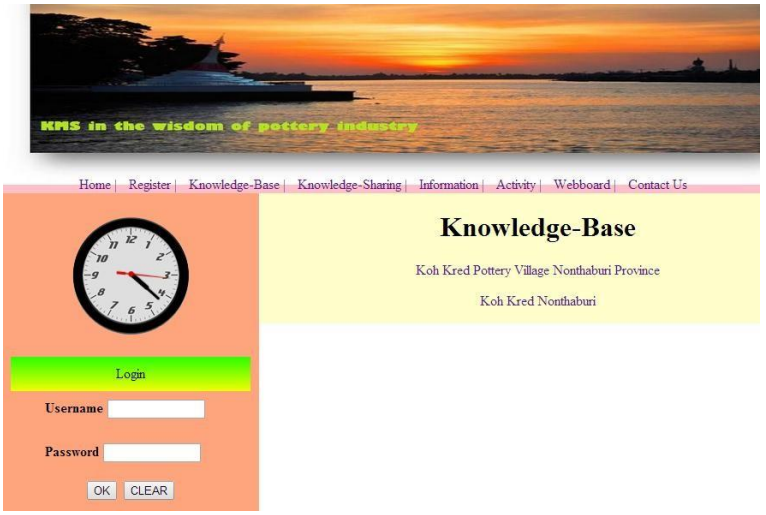

Figure 6: The knowledge-base page

Figure 7: The publicize page

Figure 8: The activity page

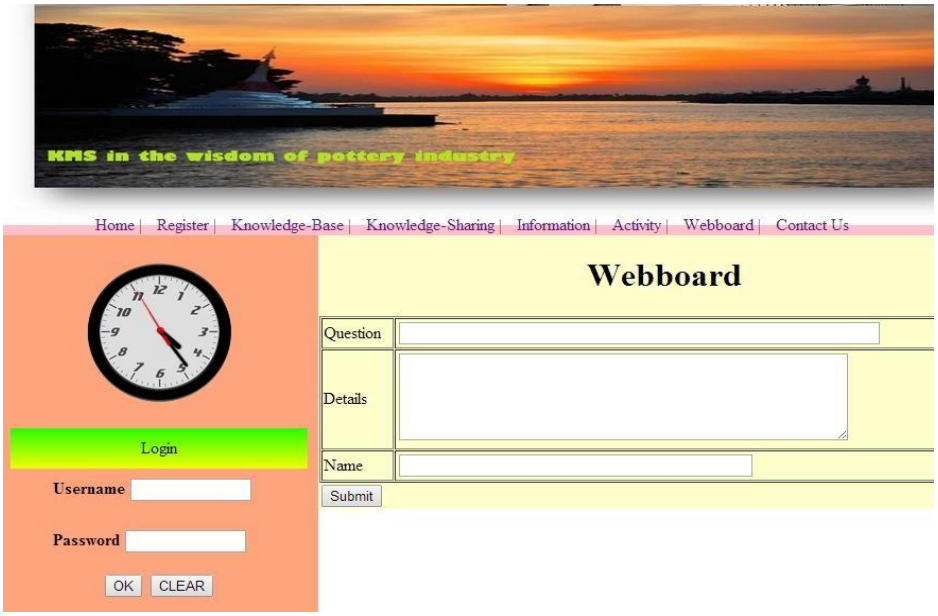

Figure 9: The main web board

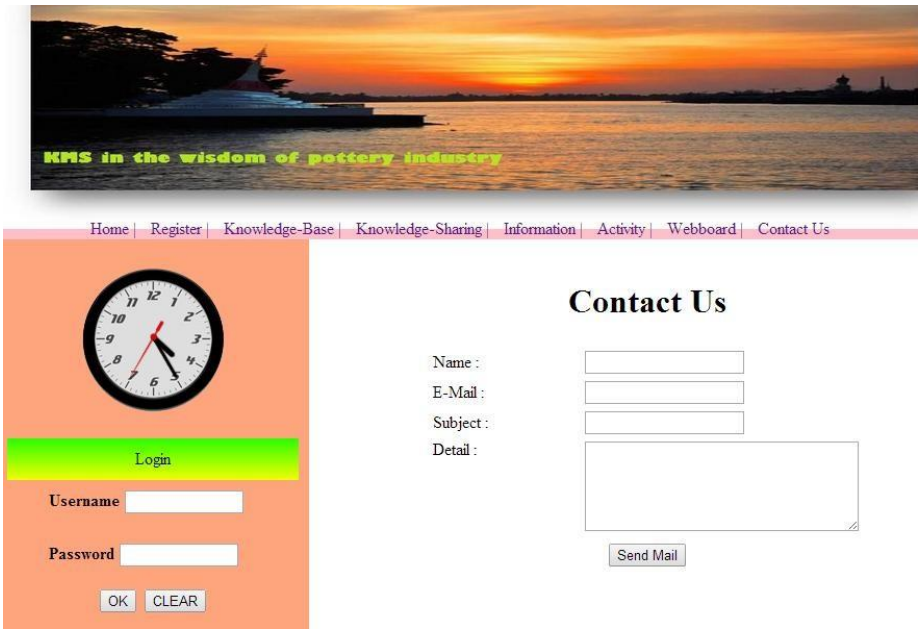

Figure 10: Contact us page

5. Conclusion

This study has developed and explored the efficiency of knowledge management system in the wisdom of pottery industry in Ko Kred Community, Nonthaburi. It includes sub-systems such as log-in, administrator, member, user and knowledge sharing systems. The internal software has the edition system, including adding and deleting on the member information and updating news and information. The knowledge management system in the wisdom of pottery industry in Ko Kred community helps the members to share knowledge on pottery industry, improve the efficiency and the effectiveness of the work, and increase the sustainability of the local/household industry according to the philosophy of Sufficiency Economy. This system can also be a model for knowledge management for other handicraft communities in Thailand.

6. Future research

6.1 Develop the knowledge management system to other handicraft communities in Thailand

6.2 Use the Knowledge-Base System (KBS) to be a part of knowledge management system, as the system can store knowledge, skills and experiences.

6.3 The efficient knowledge management system is one tool to easily access to the source of data. However, the successful knowledge management will depend on the willingness to share the information from the individuals and organization. Therefore, the study on the motivation and leadership of the case sample will be useful to increase the efficiency of the system.

7. Acknowledgement

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