Archiving Explicit Knowledge into a Knowledge-Based Systems: Promosing Benefits and Challenges at User Domain

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With the great awareness of how valueable the knowledge workers is, many enterprise now start putting and embedding 'education' system as part of their bussiness process so called knowledge based systems. The reason for implementing this system is for leveraging human capital in their organisation and at the same time increasing revenue and productivity. If learning institutions or education sectors such as universities, colleges and schools implementing e-learning system which profound on tacit knowledge, enterprises or government agencies like product manufacturers, software developers and service providers also using e-learning likely systems where knowledge based systems were used to capture tacit knowledge as well as explicit knowledge. Explicit knowledge can be understood as experience or expertise learnt by the expert workers or users which are actually the strength or value of the enterprise. By understanding the importance of this value, the result is many organisations are putting their investment on knowledge systems by hoping to get 'promosing' benefits of what knowledge system can offer. Nevertheless, there are also challenges need to be consider for ensuring the return of investment (ROI). This paper will discuss what are those promising benefits, how problems at user domain could arise in implementing knowledge systems and suggested approaches to ensure the success of knowledge based systems.

INTRODUCTION

By understanding the value of knowledge in current globalisation effect, many countries are start looking for a new way of economic source through k-economy[1]. Malaysia government for instances had noticed the necessity of this form of economy and invested in nurturing k-based industries through Knowledge-Based Economy Master Plan[2] and Multimedia Super Corridor (MSC) project. The Multimedia Super Corridor (MSC) project was initiated in 1996 as part of Malaysia's long term vision to become a fully-developed nation and knowledge-rich society by the year 2020[3].

Realizing the government innitiaves and policies, many enterprises as well as government agencies have changing their way of doing business by adapting a knowledge based system. A simple yet effective example is the used of online web portal[4].

KNOWLEDGE BASED SYSTEMS (KBS)

Knowledge Based System is a system to manage knowledge. Knowledge management (KM) can be defined differently depending on how it is been implemented. It is a set of practice or dicipline that involves people, process and technology[5]. A file of presentation slide or a website might contained a useful knowledge since a lot of people used it to present information and knowledge.

Even there are many definitions of knowledge based systems in knowledge management, our working definition for the context in this paper is any system that can preserve knowledge and assists towards effective and efficient used of knowledge.

BENEFITS OF KBS

Reusable/Relearnable Lesson

In general, we can agree that the most important element in succeeding any work we might perform is the lesson that we can learn from iether the result of the work is a success or a failure. Even a work that is in the state of on-going, an enterprise still can capture the entire lesson and reuse it for the next phase leading to the main goal or purpose of the work. For instance, a shared experience from a freshman or a new employed staff on performing his task may help the other freshman who will perform the same task in the future. Therefore, the other new freshman will no need to start doing the same mistake or performing try and error to complete his task which is highly time consuming. As the result, the enterprise can reduce the mistake and save a lot of time for training as well as staff can perform his task faster. Additionally, what most important is getting more effective and efficient process in compeleting the task.

Customizable & Flexible Learning

In education, there is a theory claims that human learn in multiple ways and different people learned in different learning styles. Since our focus in this paper is on adult or working people, the systems to train or educate user must be designed according to the user's environment. For a KBS that been implemented through online system, the learning time and subject can be customized by the user according to his preferences. This philosophy is also based on the criterion of life long learning in education theories. The essence of online also has been proposed by [5] to be used in KBS.

Increase Productivity

KBS can provide better and faster searching mechanism if the system is well engineered and used. The less time used to perform searching task, the higher productivity the worker can perform within the working time because each worker have a limited working time. Although there are issues regarding information retrieval or searching. The issues like how relevant the searching result in term of semantic and how fast the searching time from technical perspective, many KBS and search engine have proved the usefulness of searching in time saving.

Staff Performance Evaluation

The value of organisation is relying on the people inside it. By extracting and processing the value in each individual working in the organisation into KBS, the value of organisation can be modeled, visualized and identified systematically.

Proper documented and high relevency of explicit knowledge can be used as an indicator for evaluating staff performance and appraisal purpose. This can be done by using rating system by the reader or user who looking for the specific knowledge in KBS. The higher the rating is the more useful the knowledge likely.

CHALLENGES OF KBS

Although there are so many factor that might influence the key success of knowledge systems, the key element of any system is the user of the system itself. The user can be another system but most of the time is the people or human who interact with the system either the administrator or the end-user. In this paper, we try to narrow down the scope of the user in knowledge systems is the people who interact with the system.

Is it a threat to the employee?

One of the reasons that make someone still employ his job is because of his expertise, experience or simply knowledge and experience learn through out the process of completing task. As the more experienced someone become, usually the more paid he will get since the more productivity he can perform. In another words, this will lead to an increasing cost to the employer or organisation. People pay more because of profesionalism or expertise and there is no choice for paying less. Otherwise, the employer might lose the valuable asset since an expertise might migrate to another organisation for a better pay or insentive. If knowledge systems can be said as a way for saving enterprise spendature, one might think knowledge systems is going to replace their role in organisation.

Computer Literacy

Computer literacy has become a major criterion in almost all fields of work due to the benefit of computer usage to the organisation or company. Some organisations have oursourcing external consultant and trainers to train their staff in using computer but not many can do that because of the training cost. Therefore, not all staffs or users have a standard level of computer literacy. An adequate level of computer literacy among user might lead to uneffective used of KBS.

Ad Hoc Changing

In an organisation who has a large number of staff, the possibilities of different needs for reporting or more personalized screen interface of KBS is there. KBS which has been designed and develop without undertaking this ad hoc requirement from the user especially from the top management might end up with the failure used of KBS. Ad hoc changes or requirement from the user is a common scenario in software engineering and information systems. As a result, the methodology known as rapid prototyping[6] and agile methodology[7,8] are being introduced to suit with this scenario.

Mobility & Interoperability

Internet todays has save a lot of cost to the enterprise in term of logistic where enterprise can use software like instant messaging, netmeeting or email for retrieving, sharing and exchanging information. Mobility can be said as a cumpolsary features in most enterprise. This is proven by the increasing number of mobile phone been manufactured and shipped across the world. Ability to access to information outside of the office is critical due

to demand for faster decission making in current economy. Therefore, the design and architecture of KBS should be limited only through a computer but also can be extended to the mobile devices such as mobile phone and PDA. Therefore, this kind of integration required additional features or requirement where system designer or engineer need to consider interoperability of the KBS.

RECOMMENDATION

Reward Program for User Participation

The value of any computer systems is determined by the user who gets the benefit out of it. In the case of KBS, the benefits so much on the organisation side as a collective benefit. But in order to promote the use of KBS, it is important to identify and recognize such a motivation factor that make the user take the first steps in using KBS and contributing content or knowledge into a KBS. One of the approach can be used is by implementing a reward program to the active user based on their participation and contribution of content into the KBS. The evaluation how good the content is can be performed by the other users who look for that content

Adaptive Knowledge Systems

The requirement or needs of organisation is varying according to time and context. As the organisation is grow larger, its creating a number of different group of people. These different people have different needs according to their post and task in the organisation. Even the same individual may need different solution or knowledge at the different time of use. Therefore, by implementing an adaptive systems where the system is dynamically adapt with the user changes, it can ensure the long lasting and sustainability of KBS in the future. Otherwise, the systems may be found no longer suit the organisation needs.

CONCLUSION

While there is no doubt how valuable and importance a good knowledge systems in today enterprise is, it is very important to conduct an evaluation on the system including the users to measure the effectiveness as the main purpose of implementing Knowledge Based Systems. By analyzing the environment and possible challenges might emerge before, while and after implementing the system, the risk of failure for implementing knowledge systems in an enterprise can be minimized and ensure the greater possibility of success. The successful implementation of KBS is different depends on the type of organisation, nature of works, and the working culture existed in the organisation.

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