Knowledge Management and e-Learning in Organisations

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Abstract. E-learning is a medium or facilitator of the learning process within an organisation. It is used as a competency-development process for employees in the organisation. Creating e-learning in the organisation requires the management of knowledge that circulates within the organisation. Therefore, every organisation must have a mechanism of management to manage existing knowledge, which is referred to as knowledge management (KM). It is a set of principles, processes, organisational structures, and technological applications that helps people to share and leverage their knowledge to be matched with business goals. This has put focus and responsibility on individuals, such as knowledge employees, on the holistic KM. The KM can be regarded as the fundamental of sharing and application of knowledge. This is the reason why the creation and application of new knowledge is very important for the survival of businesses today. Based on the concept of the KM, organisations can capture any kinds of knowledge that are structured and reuse them as a learning process. As a result, the process of acquiring this knowledge is used in e-learning. Thus, e-learning is a tool for the KM to support learning cultures in enhancing the organisation’s competitive advantage.

1. Introduction

Today’s economic development is showing a shift from industrial-based economic development to knowledge-based (k-economy) economic development. Thus, it has been a challenge for Malaysia to develop human capital equipped with necessary academic skills. The fierce competition in the global arena is still hampering the government’s efforts towards realising its completely knowledge-based economy. Human capital has continued to be a frequent issue most economists argue. The country is facing challenges in grooming knowledgeable and professional human capital for meeting the needs of a new knowledge-based economy internationally [1,5]. In this challenging era of globalisation, knowledge has always been at the heart of a nation’s progress. The importance of knowledge in enhancing the competitiveness of the outside world is undeniable. [3] have seen the importance of knowledge that can offer economic benefits which are organisationally oriented towards the public.

The process of learning in organisations today is very important. Successful organisations are organisations that can capture the values of learning from all kinds of knowledge that exist within the organisations. The organisations can capture arrays of knowledge that exist in them by managing the knowledge themselves. [6] have stated that it is critical for the top management to better understand how to combine and deploy knowledge resources in order to improve the most critical organisational
component, which is a company’s performance. Thus, it leads to the concept of Knowledge Management (KM). The KM helps organisations to emphasise the spirit of learning as part of the organisational culture. For that reason, the KM is made as the foundation to assist a learning process for every employee within the organisations. The process of applying the KM is very helpful in realising the learning process that is formed through an e-learning model. E-learning enables every employee in organisations to make learning as a culture in them. Before knowledge is transformed into learning materials to be disseminated and required in organisations (e-learning), it is necessary to manage such knowledge first. Various studies on the application of e-learning have been done. However, the implementation of e-learning in organisations has often failed because its users have not been comfortable with the system or the system might have not been built according to the condition and knowledge level of the users [11]. With knowledge-based e-learning, employees can share information or ideas about other areas of studies and other requirements for individual self-development. Managers can place online instructional materials for their staff to download and assign assignments to them through the system. Besides, interactions between staff and top management with fellow subordinates can also be conducted directly through discussion forums, such as chat applications on the system as platforms for discussion forums [12].

To address the above issues, it is necessary to apply the Knowledge Management (KM) concept in the development of e-learning to identify, select, organise, and disseminate important information and expertise within an institution in an effort to increase productivity and improve learning achievements to enhance learning capacity of the competing organisations. In addition, the KM can also be used as a way of developing student potentials, improving learning outcomes in educational institutions, and increasing knowledge [13]. The objective of this paper is to discuss the importance of Knowledge Management in organising e-learning.

2. Understanding e-Learning

To facilitate the dissemination of knowledge and support this learning system, an organisation must have a system capable of accommodating all the needs of the organisation in terms of knowledge dissemination with high cost efficiency and ease of access by its employees. The main purpose of the knowledge-management system is to increase the competencies of employees in the organisation as part of human-resource management. The rapid development of Information Technology (IT) has created a new culture for everyone around the world. The integration of Information Technology into the world of business has made a huge impact. By leveraging the power of Information Technology, enterprise knowledge-management systems can be used more efficiently and consistently.

One of the products of Information-Technology integration into the business world is electronic learning, or fondly known as e-learning. Today, e-learning begins to pull the attention of many parties, be they academia, professionals, corporates, or industries [7]. E-learning is a form of conventional learning that is poured into digital format and presented through Information Technology. In the world of business and industry, e-learning is valued to assist processes in improving employee competencies or human resources.

E-learning is a powerful tool that has been increasingly used to power the knowledge-management system. With the advent of e-learning, the process of accessing recorded information can be done from a place even far away from a workplace. Hence, e-learning not only serves as a facilitator but also makes it easier for the employees of a company to continue learning from their or others’ past experiences that have been recorded, documented, and stored in a repository [7].

With the right e-learning system in place, an organisation or a company can quickly increase its efficiency in replicating knowledge that has been successfully acquired and learned to one side across the whole body of the organisation or company. This rapid replication is crucial to ensure that the company does not repeat the same mistake(s) over and over again in learning what is necessary and that knowledge information is not isolated to only individual parts of the organisation or company.
E-learning empowers one of the most useful characteristics of knowledge once created and stored. As such, it will be very easy to replicate the entire organisation or enterprise. The use of e-learning is intended to provide employees with learning to continuously improve their competencies in order to boost their own performances. This will ultimately play a role in enhancing the company’s progress and performance.

In using electronic media as the supporters of this learning process, everyone who wants to learn does not need to be face-to-face. Only computer media and learning materials are deployed using electronic media. In addition, e-learning also allows for collaboration among students or with teachers who are the mediators of the learning process. E-learning allows this to be implemented regardless of place and time constraints. Here are some forms of activities e-learning can do [7], as follows:

2.1 Individualised self-paced e-learning online

Individualised self-paced e-learning online is a situation where an individual conducts a learning process by accessing content resources through Intranets or Internet. A typical form of the activity is like a student learning through the Internet as the learning medium or using the Internet as a rich source of data.

2.2 Individualised self-paced e-learning offline

Individualised self-paced e-learning offline is a situation in which an individual performs a browsing activity by accessing the database of intended materials or offline learning materials which are not connected to Intranet or Internet media). A typical form of this activity is like a student using materials that are already stored in hard-disk media, CD/DVD, etc.

2.3 Group-based e-learning synchronously

Group-based e-learning synchronously refers to a situation where a group that is composed of students work in real-time learning through Intranet and Internet media. Typically, this includes text-based event conferencing and one- or two-way communication by using audio-and-video conferencing. The examples of the activities pertaining to this category are such as two or more students collaborating through real-time chat or audio-and-video conferencing.

3. Knowledge Management and Its Relationship with e-Learning in Organisations

Knowledge is often seen as a wealth of information. A more precise definition of knowledge is know-how and know-why. A metaphor for this is like baking cakes. The analysis of the particles of molecules is data, however, for most purposes, it is not very useful as people may not even be able to tell that it is a cake. A list of pastry ingredients is also information, which is more useful, as an experienced chef may be able to bake cakes – the data provided have contexts. The recipe will be knowledge, which is explicit knowledge, that tells people how to bake a cake. However, even an inexperienced chef may not bake good cakes with the same recipe. Yet, someone with relevant knowledge, experience, and expertise, which are knowledge in his or her head that is not easily written is called hidden knowledge, can be sure to bake amazing cakes based on the same recipe [4]. It is therefore important to note that, to make productive knowledge, people need information. Knowing how to bake cakes merely is not enough as people need a list of ingredients. To determine what cakes will be baked, people need more information, for example, taste of cakes consumers like.

[9] has defined explicit as hidden knowledge. Explicit knowledge can be expressed in the form of numbers and letters. This is easily shared formally and systematically in the form of data, specifications, manuals, and so on. On the other hand, hidden knowledge includes deep understanding, intuition, and hunches, which are often difficult to formalise and share. Transfer of explicit knowledge is frequently occurred, for instance, employees sharing reports, financial budgets, policies, and so on. Hidden knowledge, in contrast, needs to be transformed into explicit knowledge so that it can be
shared. This needs to be solved without losing the important part of knowledge. [8] has identified four methods that allow hidden knowledge to be transformed into explicit knowledge, which are socialisation, externalisation, internalisation, and combination.

3.1 Socialisation
Socialisation is the sharing of hidden knowledge between individuals, usually through joint activities and non-verbal or written instructions, which are among the main teaching methods that underlie the concept of mentor-students. Both allow newcomers to see how others think [2].

3.2 Externalisation
Externalisation involves the expression of hidden knowledge and its conversion to a more comprehensive form that is easier to understand [2]. Typically, externalisation involves techniques that help express ideas or images as the concepts of words or visuals [8]. For example, conventional learning methodologies require the externalisation of a professor’s knowledge as an initial step in student learning [10].

3.3 Internalisation
Internalisation is the conversion from explicit knowledge to hidden knowledge. The condition of internalisation happens when individuals must recognise relevant knowledge in an organisation’s explicit knowledge, embrace it as their own, and combine it in their basic knowledge. This is the theory of learning behind ‘on-the-job-training’ and ‘understanding-by-doing’.

3.4 Combination
Combination involves converting explicit knowledge into a more complex set of explicit knowledge. Communication, diffusion, integration, and systemisation of knowledge are a great combination which contributes to knowledge at the group level as well as the organisational level [8].

In building the KM, the researcher needs a strategy that can achieve the goal to capture knowledge. Fundamentally, there are three aspects that are important in building a strategy for the KM, as follows:

i) People
The role of people here is very important as the producers of knowledge and disseminators of knowledge per se. If this human aspect is not considered properly, which means moving the human aspect from being the main supporters, then the KM will fail in practice. This is because the purpose of the KM itself will not succeed without the support of the human factor as humans themselves are the knowledge itself).

ii) Process
Process is a matter that is related to the process of capturing the values of knowledge into media and distributing it to each individual for reuse, which is known as ‘Transfer of Knowledge’.

iii) Technology
Technology becomes a tool, which is a sufficient element, for the people and processes to run correctly. The technological aspect is the enabler of the KM, such as a tool to regulate incoming knowledge, store it, and incorporated it into the KM system (KMS). If the technology aspect is only independent, then the success of the KM will not be achieved as the technological element per se is only a supporting tool for the process of transmitting knowledge and supporting the dissemination of knowledge from the human element (people). This means that the technological element, by all means, cannot stand alone without the other two elements.
Based on the elements stated above, it can be concluded that if they are associated with e-learning, each of these elements has similarities to the application of e-learning itself within an organisation. In an organisation that wants to exercise a learning process through electronic media (e-learning), an effort is needed to empower the learning process within the organisation. The learning process must be made as effective as possible so that all functional areas within the organisation can contribute towards the success of the flow of knowledge. On top of that, the creation of the organisation’s learning atmosphere must also be implemented by the organisation so that the employees can acquire existing knowledge and improve their competencies more effectively.

To start a learning process, it must begin with people. The human element here means that an organisation must be able to impose a new behaviour within its parameter. In general, employees in an organisation are deemed comfortable being in a cozy zone called the ‘comfort zone’. This safe zone, which is very influential on the culture of employees in an organisation, means that every employee only performs his or her functions in day-to-day operational activities of the organisation and so on without having an intuition to desire more progress or change from one condition to another. These employees know what their current job is without requiring them to improve their competencies in order to elevate the organisational performance in an increasingly dynamic environment today. However, the safe zone is deemed an obstacle in every organisation to develop a learning process. Therefore, the KM has been created by starting from the first aspect, namely people. Cultural and behavioural changes in organisations must be driven vigorously so that each learning process can be carried out in line with the wishes of the organisations. Changes in the mindset of each employee in the organisations are very important, which should be in response to the current dynamic changes in the environment. This understanding must be obtained by each employee so that he or she can move from a ‘safe zone’ to a change in an organisational culture, namely a learning culture.

The second step of the KM is the creation of a process of transmitting knowledge so that the organisations can capture any forms of knowledge that pass through. The creation of this process is very important as the employees can precisely channel and share knowledge, collaborate, and communicate with other employees easily. Therefore, the process of knowledge transmission, or ‘knowledge transfer’, can be achieved. This is needed because Information-Technology assistance can act as a supporting medium in carrying out this second part (process). The existing technology must be able to facilitate each knowledge exchange within the organisations. This is because the process of retrieving the knowledge can be reused by other individuals, and the technology must facilitate communication and collaboration within the organisations.

In a process of developing electronic learning or e-learning, there is a need to carry out the content of a learning process within the organisation. The content is typically obtained through the knowledge-input process in the KM. Every piece of knowledge that is entered through the KMS of the organisation is already trafficked in it so that every employee who contributes to the creation of the condition for gathering and managing knowledge, which is getting richer as time goes by, can be used to increase employee competencies in each functional area of the organisation. Knowledge that passes through the KMS of the organisation can be formed in accordance with the existing knowledge, then the categorisation of knowledge will be made to fit courses desired by the organisation, which aims to train and learn the process so that knowledge can be acquired and learned by its employees. Each course formed by the organisation can measure the level of competencies possessed by each employee so that such competencies possessed by the employees can be enhanced according to the needs of the organisation in response to business challenges in the era of globalisation with the increasingly competitive dynamics.

If viewed from the bigger picture, the relationship between the KM and e-learning is a cycle, which means that a process in the KM will not stop. If more knowledge is stored, then the organisation may have the much richer and more detailed knowledge. In line with the development of stored knowledge and the increasing level of collaboration between employees, they will be able to get familiar with e-learning in the organisation.
With the creation of a learning culture within the organisation, the manager of the organisation can easily instruct his or her employees to be involved in the learning process through electronic media, such as e-learning. Along with the increase of knowledge in the KM of the organisation, the wealth of materials possessed for online learning may increase. Thus, the manager can easily form courses that are tailored to meet organisational needs for increasing the capability of each individual within the organisation. The acquisition process can be quickly and precisely implemented as well as the formation of collaboration between each individual and group, such as holding training chatrooms, forums, and other forms that support the communication process for learning. It aims to improve the competencies of each individual in the organisation. In addition, the function of e-learning in the organisation is to easily find out the level of performance that each employee has at this time. Due to that, steps can be taken that can give more values to each individual to increase his or her capability. This process is called evaluation. The above process continues to form a cycle that will not stop and the KM supports the creation of an effective online-learning process, which is e-learning.

4. Challenges in Organising e-Learning

Practising e-learning in organisations has not been as easy as imagined. Precisely, the biggest obstacle in implementing e-learning is not the technology that is owned or the process of managing knowledge that exists in organisations. Surprisingly, the biggest obstacle has turned out to be in the human aspect (people). To make an online-learning process successful in accordance with the goals of an organisation, it is necessary for it to carry out the process of civilising the online-learning process in the learning process for each individual within the organisation. This is due to the fact that changing the paradigm of each individual is a difficult thing to do. In general, employees may argue that if the knowledge possessed is incorporated into the system and can be reused, then their existence in the organisation will be threatened. Besides, the culture that exists within the organisation, apart from feeling threatened, is the ‘comfort zone’ which had been explained before. The security that each person has (people) makes it difficult to respond to changes because it occurs outside the increasingly dynamic environment. For this reason, the organisation must find ways to change the behaviour of its human element.

At present, the managerial level must make regulations that require every employee in the organisation to carry out a learning process by using online facilities which have been provided. The existing employees are made accustomed to donating knowledge that they have for the benefit of the organisation. Besides, the employees must also be given a deep understanding about the importance of the success of learning within the organisation, which is useful for them to improve their competencies. A statement regarding this competency must be conveyed to each employee so that it is useful for them to develop themselves in order to respond to the challenges of the era that are increasingly high in competition. By familiarising with the learning culture existing in the organisation, the success of e-learning activities will be guaranteed. This is useful for achieving organisational goals with regards to the perspective of learning in the organisation to answer any changes that exist in the environment outside the organisation.

Furthermore, in the learning process, explicit knowledge can also be used as tacit knowledge acquired by employees, communication, or collaboration needed to improve the employees’ understanding of other materials. These features of collaboration and communication include forums, e-mail, chat tools, and audio-and-video conferencing. To partake in the expected learning process and exploring all the components provided in the learning management system, there is a single portal to access learning materials or e-learning courses. Employees in an organisation who desire to get engaged in the learning process can login the portal to start learning the course(s). This is the vital part that must exist in a learning management system.
5. Conclusion

E-learning provides facilities for the development of human capital. The facilities needed to build human-resource capabilities are highly demanded considering the ever-developing utilisation of human capital. Furthermore, knowledge management is used as a control over knowledge that flows through the organisation. Hence, based on the above discussion, e-learning and knowledge management have similarities in terms of a learning process in an organisation. E-learning requires the learning process to develop individual competencies of each employee, while knowledge management acts as a control tool for each of this knowledge to be grouped. In building a learning culture within the organisation through electronic media, there is a need for knowledge control. This knowledge must be captured, organised, and distributed to all employees within the organisation. In conducting e-learning in the organisation using various media, the KM is a major aspect leading to online learning (e-learning) within the organisation. Therefore, the organisation must be able to build the KM because it can drive online learning. To build a culture of learning in organisations, literature pertaining to the KM has suggested that people are part of the success of the implementation online learning in many organisations. Thus, the managerial team must be able to direct each employee to learn (driver for lessons, not driver for people). If the culture of learning has been formed, then the learning process in the organisations will automatically run well.

Learning processes are tools used in forming a good KM. Hence, it signifies that e-learning will not run alone without the KM because e-learning is part of the KM as e-learning itself is a knowledge management system. In the end, starting from establishment of the KM and formation of e-learning, the desired results of the organisation are obtained in the form of increasing the competitiveness level of competitors by utilising e-learning as a medium to improve the level of competency and capability of each individual employee within the organisation that is driven by the role of the KM in the organisation. The practical implication of this paper can be materialised through future research undertaken by linking the conceptual relationship between e-learning components and the KM process which fertilise a healthy learning culture in the organisation to promote knowledge innovation and nurture its knowledge assets.

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