Management Strategies for E-Learning System as the Core Component of Systemic Change: A Qualitative Analysis

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Abstract: In the current information age, e-learning system is a priority for educational organizations and institutions to face the new changes. Due to the dynamic characteristics of e-learning system, its implementation will results in a fundamental change at all levels and aspects of education system which is called systemic change. Accordingly, management strategies for the systemic change implementation specifically in Open and Distance Learning (ODL) institution, has been considered as the integral part of the change process to deliver and support learning flexibility and cost-effectiveness. This paper aims to answer questions regarding management strategies that can help them to deal with the new changes from implementation of e-learning system in an ODL institution. However, the data analysis for this qualitative research found that planning, organizing, guiding and monitoring are the main strategies for the change management team in directing the implementation of e-learning system successfully. "E-learning System" as the core component of educational systemic change, is the main theme for this study. The results of in-depth analysis including emerged sub-themes, sub-sub- themes and the sub-sub-sub-themes are presented in this paper.

1. Introduction

E-learning is one of the most effective technological changes that has happened to the field of education. In the current information age, e-learning system is a priority for educational organizations and institutions to face the new changes. Due to the ability in providing a flexible learning environment, e-learning is widely used in Open and Distance Learning (ODL) institutions in many countries as Malaysia. In result, during the past 20 years, conventional campus education has changed gradually to an e-learning-based mode, to improve the quality and flexibility of their delivery system that is much preferred by working adults (Ghavifekr & Sufean, 2011). However, it has been considered that for the success of e-learning adoption in ODL institutions, much more than just a minor adjustment in the current practices of higher education are needed (Fullan, 2001; Senge, 1999; Uys & Siverts, 2001). Bates (2000) considers the recent changes from integration of e-learning, as the revolution in thinking about teaching and learning, which has directed the higher education specially ODL institutions to go through technological changes as an alternative solution for their system's improvement . In this regard, the main part of the revolution is related to the management's strategies for changing the way that ODL institutions have planed and organised in order for achieving maximum effectiveness. However, managing process of change is a crucial and important task for improving the speed and sophistication of teaching-learning delivery system in universities (Ghavifekr & Sufean, 2011).

However, e-learning implementation in line with globalization and information highway, has influenced ODL institutions to recognize change management strategies as an important tool for their organisational growth and development. In this context the Malaysian higher education institutions are looked upon by the general public to managing change in the form of educating future workforces that are technology savvy, innovative and conversant in technical know-how, so as to enable the nation to be competitive (Hashim, 2007). Hence, the need for effective ICT-based governance is one of the main elements for change management strategies in the Malaysian education system which will ensure that technology investment decisions are optimized in the system and well planned (Suhaimi et. al., 2007).

2. Statements of the Research Problem

The recent attention to change management can be attributed to the belief that managing change particularly in education system is challenging and it is therefore necessary to perform strategic planning (Senge, 1999; Uys and Siverts, 2001; Fullan, 2001). In this regard, lack of strategic management is one of the main challenges which educational organizations and universities are facing in the current changing society (Coimbra Group of Universities in Europe, 2002; Richards, O'shea, Connolly, 2004; Rossiter, 2006;

Uys and Siverts, 2001; Zellweger, 2006). However, in today's demanding environment, the key challenge facing educational planners and management teams is related to their ability to identify a long-term vision, mission and strategies that can be delivered effectively through the best practice of strategic management techniques to deal with the new changes in a systemic approach. In case of open and distance learning, the recent technological changes from e-learning implementation, have a major systemic implication on the education system that needs to be carefully planned , organized , guided and monitored .This is in order to make it more flexible, effective and efficient to be used by adult learners (Ghavifekr & Sufean, 2010).

In the Malaysian education system, the essential role of change management strategies for implementing learning technologies, is a basis for competitive advantage of ODL institutions in the country(Ghavifekr et al., 2012). Previous research (Hashim, 2007; Poole et al.2004: Rahimah, 1998; Raja Maznah, 2004) show that directing and managing e-learning is a complex process which requires change management strategies to deal with the new changes. This is due to the current issues and challenges related to the use of learning technologies in the Malaysian higher education. Moreover it is because of the essential role of technology as being an integral part of open and distance education system.

3. Research Objective and Question

The main purpose of this paper is to examine "E-learning System" as the core component of systemic change with the four management functions including planning, organizing, guiding, and monitoring. In addition, this paper aims to identify management strategies that involved in dealing with e-learning implementation in context of a Malaysian ODL organisation, which is the first open and distance institution in the country.

4. Method

For the purpose of this study a qualitative research methodology was used and data were collected through three different sources including open-ended interviews, direct observation, and official documents revision techniques for the duration of six months in an open university in Malaysia. The official documents reviewed and analysed in this study were including mission statement, strategic and resource allocation plans, the university's published Annual and Monthly Reports, newspapers, public records, and research articles which have been presented in local and international seminars and conferences by the officials. The observation and document review techniques had been used in providing further

interpretation of the interview data. The total of 35 interviewees were from various groups including top management, deans of the faculties, directors and heads of the supporting centers and departments, as well as the senior tutors who have been working at the open university since it has been published twelve years ago. All the materials and interviews were recorded, transcribed and analyzed by using the open coding, axial coding and selective coding techniques. In order to organize and manage the data more systematically, the raw data were analyzed using NVivo 8.3 computer software. Using the computer software helped the researcher to find in-depth and detailed data on management key strategies and policies regarding implementation of systemic change in the case open university. In addition, the procedures for coding and categorizing e-learning system implementation as the main theme of this study were guided with the Ladder of Analytical Abstraction (Milles & Huberman, 1994) as a guideline for the qualitative data analysis. The results of the emerging sub-themes, sub-sub-themes , and sub-sub-sub-themes are based on examination of planning, organizing, guiding, and monitoring as the four key functions of management are presented in the following sections.

5. Data Analysis and Findings

5.1 E-Learning System , the Core Component of Systemic Change

Since the establishment of the case open university in the year 2000, e-learning has been considered as the key element in implementing new changes in the ODL organization. This study found that the decision to implement e-learning system has been played an important role in the development and improvement of the university's position locally and internationally. This is due to the rapidly increasing of students' enrolment in the institution during the last twelve years of practicing ODL in the Malaysian society (Anuwar Ali, 2008). The result of this study indicates that implementing e-learning system was considered as a catalyst for the institution's adult learners in accessing to the proactive learning environment. In this study, proactive learning environment refers to a more flexible and learner-centered environment that provides dynamic and active interactions between the learners and tutors through an online forum as well as face–to- face tutorials. The analysis showed that e-learning system considered as the core component of change that led the university to provide opportunities for working – adult learners to persuade their higher education. This is in line with the country's developmental vision to reach the large numbers of IT-savvy workforces and ICT infrastructures by the year 2020. Moreover, e-learning was considered as an influential factor in

increasing learner intake at the institution. As pointed out by a top management of the ODL institution, for more progress in the future, the university needed to be equipped with the appropriate capacity to sustain e-learning system and ICT-based activities. The analysis data showed that the main vision of the institution leaders and the change management team for implementing e-learning system, was to achieve the desired goal of "democratization of education" . In this regard, e-learning system meant to be an enabler tool to meet higher education aspirations using flexible, accessible and affordable system in order to provide lifelong learning opportunities for all and to help the government in the democratization of education (The Annual Report, 2008, p. 5).
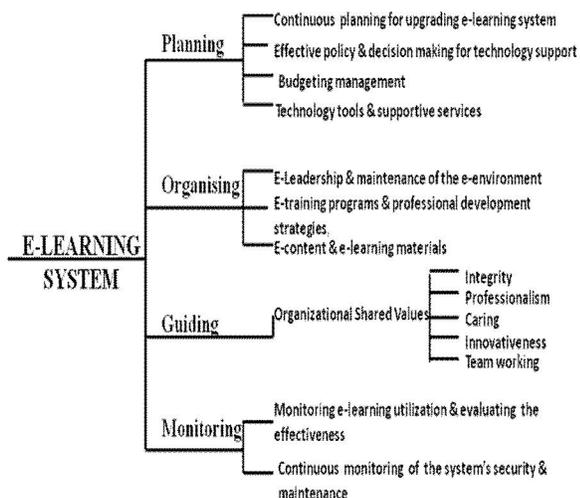

Figure 1 .The overview of systemic change management strategies for e-learning system

      The outline of the sub-themes, sub-sub themes, and the sub-sub-sub-themes for this study shows in Figure 1. These themes have emerged from in-depth analysis on the e-learning system as the main component of systemic change. As shows in this figure, e-learning system has been examined with the management key functions ; planning, organizing, guiding and monitoring. The detailed explanation on the above figure is presented in the following sub-sections .

5.1.1 Planning E-learning System
      The analysis showed that main reason for implementation of the new changes in the ODL institution was to improve the system with using technology in teaching and learning processes. This study found that for the effective utilization of

learning technologies such as e-learning and Information-Communication Technology (ICT) for education and training purposes, clear vision and strategic planning are the two main prerequisites. While having a clear vision can help the management of change to answer the question of "what to change", strategic planning for change would guide the system in addressing the question of "how to change". This is because in vision and planning phase, the desired goal of the organization which is the purpose of the change would be set up. The analysis suggested that the importance of strategic planning would be more essential when an organization going through the technological change with the reason of system improvement. In this study the analysis suggested that in the ODL institution, planning for change from e-learning system comprises four strategies as follows:

- Continuous planning for upgrading e-learning system

      Since the main goal of the institution was to develop quality education through advanced technologies, strategic analysis and planning phase played a crucial role in the process of managing e-learning changes in the case university. In this context, management strategies were focused in developing high quality adaptive content. This prerequisite was part of the management strategies for upgrading the e-learning system. Through such a continuous planning, the institution's management was able to respond to the market needs. Therefore, developing and enhancing learning experiences towards the development of a knowledge-based society was centered in this strategic planning for the change management team.

- Effective policy and decision making for technology support

      The next strategy in planning for the new changes was related to effectual policy and decision making for technology support. This study found that, investments for e-learning system were an important task for the change management team. This is becouse the top management believed that lack of appropriate policies to support the successful implementation of learning technologies, would lead to the failure of the change process. However, effective policies were required not only to assist in building "e-learning culture" among the organisation members, but also to make sure that there are sufficient facilities and resources to supply e-learning system.

- Budgeting management

      Budgeting management was the other sub-sub-themes in management planning for e-learning implementation which emerged from in-depth analysis. In this study budgeting management refers to

the management strategic planning for resourcing and financing related to change implementation. All the budgeting strategies, needed to be approved by the change management team before being practiced. Accordingly, the main task for the change management team was to prepare a guideline for all the budgeting plans for the whole university. This guideline which is regularly reviewed and evaluated every semester, was depended on the budget that the university needed for maintenance of its activities regarding e-learning system implementation. Moreover, budgeting management was including adequate funding to support the needed purchases for sufficient hardware, software, and services of the advanced learning technologies. In addition, employing appropriate and skilled staf including both academic and non-academic, for working in such an e-learning environment also needed sufficient budgeting.

- Technology tools and supportive services

As being the first ODL institution in Malaysia and in order to be a provider of flexible learning, one of the major concentrations of the top managent team was focusing on technology tools and supportive services. This strategy was necessary to ensure that all the technology services to maintain e-learning system were accessible to the distance learners. In this regard, Learning Management System (myLMS) was the main e-learning services which supports the teaching and learning processes. To achieve effective and efficient outcome, my LMS has been designed to be more user-friendly for the adult learners. Moreover, it has been designed to enrich the learning experiences through participation in online discussion (Anuwar Ali, 2008; Zoraini Abas, 2009). The institution's e-learning supportive services had been used not just by students, but also by all the organisation members in order to support the academic and administrative activities.

5.1.2 Organizing E-learning System

After planning for e-learning system, there was a need for considering the important role of organizing elements in the planned strategies. This study found that in the ODL institution, organizing strategies for e-learning system was more related to the organization's structure. In this context, to reach the objective outlined in the planning process, it was essential to structure the activities of the organization. This is due to the management's key strategy in assigning skilled employees who are relevantly capable to work in the technology-based environment. In addition, understanding the employees and their capabilities towards the available resources, was critical task for the management team in dealing with

the new changes. Based on the objective of this study, an in-depth analysis was made on the organizing strategies for e-learning system and the emerging three sub-sub themes were narrated in the following sub-sections:

- E-leadership and maintenance of the e-environment

This study found that as e-learning was the core element for systemic change, quality performance of the ODL organisation was mainly depended on the management of the technology. In this regard, for effective organizing of the technology-based education system, there was a need for people to perform as e-leadership and e-management. In this study, e-leadership refers to the variety of management's activities in appraising the educational needs and technological experiences of the target learners. Analysis showed that innovation and research was among the main criterion for e-leadership activities in their critical task of managing the technology-based environment. The role of e-leadership in preparing the organization for systemic change was another strategic task for such a leadership style. E-leadership's ability in managing the change process while maintaining balance within all the organizational levels and aspects, had a significant effect in the success of the e-learning implementation process. This is because e-leadership was an efficient style of leadership that ensured the consistent quality improvement of the ODL institution.

- E-training programs and professional development strategies

According to the analysis, providing e-training programs for various individual groups was among the management key strategic planning in dealing with the new changes from e-learning system implementation. These programs aimed to enhance the professional development of the university's human capital. Moreover, the e-training programs designed for continuous preparation of the human resources on utilization of the new technologies including effective staffing and tutoring methods and strategies. The participants in the e-training programs were both non-academic and academic staffs including tutors and facilitators. During the e-training programs, usage of the Learning Management System (myLMS) as well as the services which are available in the LMS also demonstrated by the professionals in the field. Analysis showed that in the context of the ODL institution, professional development was aimed at having sufficient numbers of the correct people to ensure the general maintenance of the Information Communication Technology (ICT) and its infrastructure. In addition, developing e-learning

solution to deal with the new changes was among the key criteria for professional development at the institution.

- E-content and e-learning materials

Since the establishment, e-learning was the open university's primary mode for learning delivery system. Accordingly, continuous improving of the e-content and e-materials with the purpose of quality online learning, was an essential strategy for the management. Data analysis showed that the desire to develop more e-content and e-materials in the form of online modules via technology servers was the main reason for e-learning change initiatives. This strategy was in line with the university's mission to expand accessibility to quality education as well as providing lifelong learning opportunities through e-learning adoption. However, adoption of flexible mode of learning while providing a proactive and dynamic learning environment, helped in the development of more competitive and affordable cost for the target working–adult learners. It also resulted in the rapid increase of students' enrolment locally and internationally.

5.1.3 Guiding E-learning System

The analysis revealed that a set of organizational shared values was an effective strategy for the management particularly in guiding planned changes in the e-learning system. In this regard, the shared values of the institution acted as a guideline for the organization to move forward in achieving organisational desired goals and objectives. Moreover, the interrelationships and interconnections of the institution shared values resulted in promoting the culture of change among the organizational members. These shared values were include Integrity, Professionalism, Caring, Teamwork, and Innovativeness. These values were the common ground for all members of the organization in their daily activities in order to help the leaders in guiding the system for implementation of the new changes. Moreover, the shared values also acted as strategies, philosophy, and basis of the change management actions in dealing with the e-changes. In addition the shared values had an essential role in enhancing the organizational motivation for change.

5.1.4 Monitoring E-learning System

Apart from planning, organizing, and guiding which were the three effective management strategies for the success of the systemic change process at the case open university, monitoring of such strategies was also critical. This study found that when an organization going through new changes for the

purpose of system improvement, there was a need for monitoring strategies to ensure that the planned objectives have achieved. Through regular monitoring, the change management team were able to see the performances of the various units, centers and the faculties. Based on the analysis, the more efforts the management put in continuous monitoring of the e-learning system, the better results they would get regarding organisational planed goals and objectives. The results of in-depth analysis based on emerged sub-sub themes from monitoring e-learning system, were two strategies as follows:

- Monitoring e-learning utilization and evaluating the effectiveness

This study found that for an e-learning system to be more effective and efficient for the benefit of students' learning, there was a need for regular feedback from both tutors and the learners on effectiveness of the system. Receiving these feedbacks helped the change management team in continuous monitoring of the e-learning utilization by providing opportunities for being more detailed on efficiency of the learning objectives. In addition, doing research on the surrounding technology changes, helped the management to have comprehensive picture on the effectiveness of the new changes. However, monitoring strategies of the management has resulted in the utilization of more interactive and automated learning technologies since the open university's establishment. Using "Google Analytic" was one of these effective strategies. This service helped the technology management to get the data and to understand this data on how much improvement that was needed to put into the system. The Google Analytic provided detailed information on the data usage including numbers of hits, the time the hits, the peak times of the hits, and the time that the system was under bottom line by the users. This service also helped the technology management in financial planning for the following years. Therefore, based on these information, the change management team had ensured that the system would not face any problem for the years ahead.

- Continuous monitoring of the system's security and maintenance

Finally, e-learning system's security was part of the vital needs for preventing the system from unauthorized accessibility at the institution. In the case open university, there are specific teams that their responsibility was to maintain the e-learning system activities by securing the data from unauthorized accessibility. Moreover, these teams also have the

responsibility for availability and performance of the system and storing the information from being lost or inaccessible. By monitoring students' login through Google Analytic, the institution's technology management were able to enhance the security of unauthorized access. Thus, when students log in to the e-system, the management was able to track the place and the browsers, as well the websites and links that they were accessing. The present e-learning system at the ODL institution provides all the information related to the security of the system's usage, such as audit trial that can do on each transaction done by the users. In this regards, continuous monitoring was the key strategy to maintain the security of the present technology. For more effectiveness, from time to time the technology authorities trying to improve the system based on the users' requirement and the organizational policies.

5. Discussion and Conclusion

Over the last few years, adoption and integration of various learning technologies has become a central part of educational systems, making positive effects on teaching and learning outcomes. In this regard, implementation of e-learning system specifically in context of distance education organizations where the technology has a fundamental effect on organizational performance, has brought many changes in response. In line with Uys (2007) idea on the essential role of e-learning for ODL institution, this study found that e-learning system is a priority for distance educational organizations and institutions to face the new technological changes .

As explained in this paper, implementing e-learning in educational system had resulted in providing a more open and flexible and learner-centered teaching and learning environment which is more expedient for the distance-learners and cost effective for the universities. Similarly, Fullan (2001, 2003, 2007) affirmed that e-learning adoption made fundamental alterations in educational systems which direct the teaching and learning process to a more learner-centered status. Consequently, the new changes from e-learning adoption begins with explicit vision on educational culture as well as fundamentals that maintain the learning process namely pedagogy, course design, instruction, evaluation, and the management's strategy and policy.

This paper elaborated that in context of open and distance education, management of change is referred to the planned strategies in dealing with new changes from implementation of advanced technologies such as e-learning system. In such a context, dealing with the changes, as well as defining and implementing procedures and technologies to benefit from changing opportunities is the main

responsibility for the change management. As mentioned in this paper, there are four main strategies that need to be considered by management of change in dealing with the new changes from e-learning system. Specifically in an ODL institution, each of these strategies comprises of some key dynamics and interaction that involve in the change management process.

In line with Fullan (2001), this paper explained that the requirements for e-learning system infrastructure, consists of hardware, software and high-speed Internet connectivity, as well as regular maintenance, continuous monitoring, planned upgrades and appropriate students-tutors interactions ratio. However, addressing present issues and enhancing the quality of education to achieve future progress, was the main intention of the management to plan their strategies for the new changes implementation.

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