The management of e-Learning in organizations

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Abstract

Date: 2009-06-02

Program: Master of Science in IT Management

Course: EIK 034 - Master Thesis

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Title: The management of e-Learning in Organization

Problem: How do organizations manage their e-Learning?

Purpose: Describe and analyze how the organizations manage their e-Learning in order to find out the differences and similarities between academic and business organizations.

Method: Qualitative research method arranged the collection of data into two different types, which are primary data from interview, and secondary data are collected from various valid and reliable sources. The analysis of the data has been performed according to conceptual framework developed from critical literature review in order to serve as a tool for deriving reliable and relevant conclusions.

Target group: Organizations engaging e-Learning, and the readers who study about and/or are interested in Information Technology and Information System especially in e-Learning

Conclusion: It is clear from the study that to be successful in managing e-Learning, the organization was not only invests in information technology and provides excellent learning material, but also needs to focus on management team support which should start from senior managers to make a supportive policy and strategy that occur in learning process to create an organization and individuals’ learning culture. Moreover, organization needs to transform structure and finds superior project team who can operate and manage all e-Learning processes within the organization in order to build up working environment that supports knowledge for learners and reduces individual resistance.

Keywords: e-Learning, Management, Learning Management System (LMS), and Organization
Acknowledgment

Master Thesis as this cannot be completed without considerable support and encouragement from various people who are truly important to be acknowledged.

First, the authors would appreciate to express gratitude to our thesis supervisor, Ole Liljefors, and Michael Le Duc who provided us insights and numbers of information on the e-Learning area, without their precious advices and inspiration this study would never completed.

We would also thank to Marie Mörndal and Peter Aspengren of Mälardalen University and Daniel Garcia La Barca and Ricky Holmgren of IKEA who contributed their time and useful information during the interview of this research. We would as well like to express thankfulness to Wipawee Uppatumwichian at Lund University and Sukanya Rojanapuwadol at Goteborg University for their kindness help us in various conditions from the start till the completion of this study.

Special thanks are as well appreciated to our lovely families who continuously give us love, care, and support during stay in Sweden, our thesis mates that we spent all day and night writing this thesis together, our colleagues here at Mälardalen University who assist and criticize us throughout the study in IT Management program. It has been a great academic year.

Last but not least, the authors would glad and hope that the result of this study will be useful for those organizations interested in Information Technology and Information System especially in e-Learning.

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Västerås, Sweden
June 2009
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1. Introduction

In this chapter, the authors explain main issues of our study by presenting topic background, study problem, purpose, report limitation and target audiences.

1.1 Background

Information and communication technologies allow radical changes in traditional context of learning (Zhang & Nunamaker, 2003). Learning and teaching are no longer restricted to traditional classrooms (Marold, et. al, 2000; McAllister & McAllister, 1996; Zhang & Nunamaker, 2003). In addition to educational institutes, changes in information technologies also affect learning processes in businesses. According to Ong et al, (2003), the change from a product-based economy to knowledge-based economy has resulted in an increasing demand of knowledge employees. Organization need employees who have competence in higher order thinking and are reasoning to solve complicated problems in the work place (Ong et al, 2003). This requires organizations to educate and train their employees, anytime, and from anywhere (Ong et al, 2003).

In recent years, E-learning has emerged as a part of a tool to meet learning demands and extend traditional modes of training (Ali, & Magalhaes, 2008). Rosenberg (2001) defined e-Learning concept as the use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance. Not only use of internet technologies but e-Learning also referred to a form of learning delivered via all electronic media including the Internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV or CD and DVD-ROM (Hall & Snider, 2000; Lytras et al., 2002; Urdan & Weggen, 2000; Govindasamy, 2002).

The growth of e-Learning systems has presented a unique challenge for both schools and industry (Wang, 2003). Many schools and corporations are investing considerable amounts of their resources, for instance time and funds, in developing online alternatives to traditional education and training systems. E-Learning has become an option for organizations who looking toward for improving the skills and capacity of their employees to eventually improve workforce morale and increase employee retention rates (Ali & Magalhaes, 2008). Through the e-learning systems, employees have access to several on-line databases and tools that can help them find solutions for their work related problems. Many businesses are finding that e-Learning offers the kind of accessible, efficient and cost-effective corporate training that fits their needs (Ali & Magalhaes, 2008). According to Driscoll (2002), benefits of e-Learning can be divided into two categories. The first category is the strategic benefits that can improve the competitive advantage of organization through e-Learning’s ability by developing a global workforce in order to make shorter products development cycles and manage flatter organizations to adjust to employee work style, and to increase skills and knowledge of workers. The second category is relative to the tactical benefits that providing just-in-time learning, making course updating easier and leverage organization existing network infrastructure (Driscoll, 2002). From this reason, many companies such as Dell Learning, CISCO E-Learning, and HP Virtual...
Classroom, have adopted e-Learning solutions for their corporate training, (Zhang, 2002; Zhang & Nunamaker, 2003).

Although some organizations are recognizing the potential of e-Learning, which can bring knowledge closer to their employees, there are some points to be addressed in delivering e-Learning in organization (Kim, et al, 2005). According to Mungania (2003, in Kim et al, 2005), learners in organization would still face some barriers to use e-Learning, such as situational, organizational and some of technical barriers. Hedman & Kalling (2002) stated that two main factors that hamper or drive a change of technology in organization are cognition and culture. Cognitive factor such as knowledge in IT also obstruct the use of e-Learning. Cultural factor such as norm and value of individual affect the e-Learning process. Managers are also concerned about resources in terms of cost and technology requirements for implementing e-learning system (Ellis, 2004, in Kim, et al, 2005). In addition, learners will demand for training only when they need. If managers force their staff to use, or there are a lot of stuffs to learn which take long time for all of them, learner will reluctant to learn. Therefore, the implementations of e-learning will not success. To effectively navigate through these issues of e-Learning and to be successful in managing and implementing, organization should understand the current state and the future direction of e-Learning.

### 1.2 Problem statement

Organizations have to be clear and understand the definition, policies, strategies, processes, and barriers of e-Learning within organization in order to be successful in implementing e-Learning program.

Hence, the research question of this thesis is generated as: “How do organizations manage their e-learning?”

### 1.3 Purpose

The purpose of this thesis is to describe and analyze how the organizations manage their e-Learning, and find out the differences and similarities between academic and business organizations.

### 1.4 Limitation

According to time limitation, the authors were given ten weeks in order to develop and complete this study. As a matter of a limited time frame, the authors cannot gain sufficient information to make a case study thesis although the authors selected to focus the primary studies on two organizations, which are IKEA and Mälardalen University, in order to support a business organization and an academic institution.

In addition, the authors attempted to focus on organizations that have already implemented e-Learning within their own places; however, we cannot predict other
external factors that urge them to apply e-learning such as the pressure in the use of IT in organizations from different industries. With a limitation of time and access to interviewees, the authors cannot gain some data and analyze all of information from organizations in every single industry. Accordingly, the authors expect that our thesis can be useful to other researchers to further the related studies

1.5 Target audience

This study brings interest to some organizations that are seeking some methods to adopt e-Learning. It is still useful to some organizations that have already developed e-learning as well. Furthermore, the authors consider that our research gives a general guidance to readers who study about and/or interested in Information Technology and Information System especially in e-Learning.
2. Methodology

In this chapter, the authors present methodological and process of our study. Therefore, the issue illustrated respectively in research approach, data collection, analysis of information, and validity and reliability in order to guide the study in further part.

2.1 Research Approach

In this section, the authors divided research approach into two topics, which are choice of topic and the chosen theories in order to present the reason of selecting this topic and show the relation with chosen concepts.

2.1.1 Choice of topic

The authors chose e-Learning as our scope of study since we got inspiration from reading through many articles. The authors found that e-Learning concept was very popular in recent years and continuously growth in term of use and developments (Vrasidas, 2004; Wang, 2003, Ali, & Magalhaes, 2008, Zhang, 2002; Zhang & Nunamaker, 2003, Safavi, 2008).

There are many developments in software and systems that support e-Learning in academic organization for example: Webct, Blackboard, Studentportal and etc. However, there remain some discussions among researchers in topic area about the change from traditional learning to electronic learning (Marold, et. al, 2000; McAllister & McAllister, 1996; Zhang & Nunamaker, 2003). In addition, the authors familiar with e-Learning only in academic organization such as university and school but not in business organization especially in developing countries (source: the authors’ experiences). According to these interest issues and curiosity of the authors, we selected management of e-Learning in organizations as our thesis topic. The authors would like to study how organization manage their e-Learning to find out general idea about e-Learning processes in organization and find the similarity and different issues between e-Learning concept in academic organization and business organization.

The main context of this thesis provides e-Learning concept and its management in general terms by reading through literatures from many researchers’ aspects. The authors also applied some information from primary data to support and analyze but the authors did not do case study thesis because of limitations.

Since the shift to the knowledge-based economy (Ong et al, 2003) and the concept of Organization Learning (OL) can address various issues about learning processes and will support the role of knowledge management in organizations, the authors wished our e-Learning topic would generate idea for any organizations and people who interested in this topic area provides. Moreover, our thesis result can be foundation for further education in e-Learning management in different kind of organizations.
2.1.2 The chosen theories

To make an outcome of our problem statement, the authors used several concepts and theories. First, the authors gathered concepts of e-Learning to present the various kind of definitions since many people familiar with e-Learning only in educational aspect. Then the authors gathered literatures in area of factors influencing e-Learning to find out necessary external factors. Learning management system (LMS) was selected to explain and analyze the development of e-Learning system process. According to literatures reviewed, LMS is significant for managing of e-Learning in organization and many researchers related LMS topics with e-Learning topic. The authors also referred the concept of Pedagogy connected with LMS since nowadays teaching and learning concept are linked with Pedagogy concept.

Learning process in organization is another concept that used in our research since E-learning concept in organizations presents the relation in knowledge management and learning processes area. Learning processes in organizations is suitable to show the e-learning system in organizations. This process illustrated the framework of activities, resources and way of management, which used for analyzing the management process of e-learning in organizations.

Moreover, the authors used concepts of individual learning process to present the barrier to implement e-Learning in term of individual level since learners are the outcome of e-Learning after e-learning was adopted.

2.2 Data collection

The authors’ intention was to collects the essential data to the research in order to analyze research question and come up with the conclusion. Fisher (2007, p.166) illustrated that “the research may involve the use of several research methods of data collection; interviews, panel, questionnaire, observation, and documentary.” In fact, the methods to collect the data may depend on the research approach. The figure below shown the overview of the data collection methods

<table>
<thead>
<tr>
<th>Exploratory research Unstructured</th>
<th>Survey research Structured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>Critical incidents</td>
</tr>
<tr>
<td>Focus group</td>
<td>Delphi technique</td>
</tr>
<tr>
<td>Lots of white space on the page</td>
<td>Tick boxes</td>
</tr>
<tr>
<td>Keeping a research diary</td>
<td>Completing an observation schedule</td>
</tr>
<tr>
<td>Rhetorical analysis</td>
<td>Activity sampling</td>
</tr>
<tr>
<td></td>
<td>Statistical analysis of themes</td>
</tr>
</tbody>
</table>

*Figure 1: Unstructured and structured approach to the main research models
Source: Fisher (2007, p.159)*

A study of research has a possibility to produce the substantial information by considering the collection of data in either or both quality and quantity. Those issues
are important to analyze the data and give the respective result in the conclusion (Fisher, 2007, p.62). However, the data in qualitative material is generally based on words rather than numbers. The words information in qualitative research may be represented or obtained by observations, interviews and documents (Miles & Huberman, 1994, p. 56). Thus, the authors used exploratory research with conducted the interviews to obtain in-depth and detailed information and arranged the method of the data collection into two different types, which are primary data and secondary data.

2.2.1 Primary Data

Primary data is the information obtained firsthand by the researcher for specific purpose of the study (Sekaran, 2003). There are several ways of collecting the primary data. This research used “semi-structured interview”. This was the interview that the authors as interviewers have main issues and topics to ask interviewees. However, they can talk about their experience and incidents (Fisher, 2007, p.159). The interview provided the in-depth information from both academic organization and business organization, which is decipherable for the research. The data collection from interview granted the authors a clearer view of how e-Learning has been utilized and handled in the organizations. By analyzing the collected data from interviews, the research can show not only the way organizations administrate their e-Learning, but it can confer the view of how organizations deal with the impact on barriers of e-Learning.

There were several companies and universities that the authors were interested in conducting an interview. Through the support of our supervisor, Ole Liljefors; the authors had an opportunity to obtain information from Mälardalen University, one of Sweden’s institutes of higher education, and IKEA, a worldwide company in home products retailers. To make the report more reliable and valid, the interview was conducted with executive point of view from IKEA and Mälardalen University on May 2009 to get in-depth information regarding thesis topic, conceptual framework and specific detail of e-Learning strategies of the organization.

In addition, there was reason behind the selected organization. The authors intended to study organizations applying different e-Learning strategies, which can be identified whether organizations are in academic or business sectors. Therefore, IKEA was chosen at that time as it is a company that can represent the business sectors where the demand of e-Learning and financial expenses is strongly concerned.

On the other hand, Mälardalen University is an academic organization, which signifies planning, design things for future development. The university has based-improvement on technological change. Also, the students are preliminarily considered as learners in organization.

Although those organizations are presented in the global market, the authors only conducted the study in Sweden, as the organizations are representative. In addition, the two selected organizations make the authors observed they had confirmed that e-Learning concept and program has been managed and applied to all of their departments, faculties, employees, and students, who take charge in organization
Interview

The authors selected “semi-structured interview” method to collect information from respondents in aspect of e-Learning. The authors create interview questions by following our framework. According to the interview, the authors divided it in to various parts start from e-Learning background. Then the authors asked questions in detail of our framework topics such as the Learning Management System to look into infrastructures of the organization, the process of learning in particular organizations, and the barriers of implementation that occur in the organizations. (see interview questions in Appendix).

a) The email and face-to-face interview employed with Mälardalen University interviewees

The authors were sending out email to several staffs that concern IT and e-Learning field asking for an interview. The reply had shown instantly that they interested in granted the authors their valuable for conducting the interview. Although Marie Mörndal, a lecturer of School of Sustainable Development of Society and Technology at Mälardalen University, Västerås city, Sweden, presents to answer the questions performed by the authors through “email interview”, the authors had a great opportunity to accomplished “face-to-face interview” with Peter Aspengren, a consultant in learning technology at Mälardalen University, Västerås city, Sweden on 14\textsuperscript{th} May 2009. Peter Aspengren has been working with Mälardalen University for numbers of years in Pedagogical, ICT, and Learning department which concerns directly to e-Learning approached. The interview session was protracted approximately two hours.

b) The phone and email interview apprehended with IKEA aspirant interviewees

The authors were approached IKEA in moderately the same method with Mälardalen University. IKEA was replied after a while with the pressure that they are appreciated to answer questions and arranging the time for interview. An opportunity came to the authors by Daniel Garcia La Barca, an IT / Op Säk ansv at IKEA Helsingborg, Helsingborg city, Sweden. The communication of “email interview” had occurred on 11\textsuperscript{th} May 2009, as well as “phone interview” was happen on 15\textsuperscript{th} May 2009. The interview session lasted an hour. Daniel Garcia La Barca had possessed information concerning the company’s policies and strategies, an implementation of e-Learning, IKEA Learning Center, and others worthiness information. Moreover, the authors had an opening prospect to conducted “phone interview” with Ricky Holmgren, an Local IT / Op Säk ansv at IKEA Västerås, Västerås city, Sweden. Ricky Holmgren has been working at IKEA for a number of years concern IT, securities, support system, through e-Learning program. He was expressed the barriers and recommendation of IKEA Learning Platform as practical user as well as a person in charge of development and operation team. The interview gathering was covered the selected research area with in forty-five minutes.

Therefore, the data presented in Empirical data chapter was collected from four successive interviews offered by two selected organizations. The interviews presented
with several methods above lead the authors created the table for simply understand show as following.

### Interview Time frame

<table>
<thead>
<tr>
<th>Interviewees</th>
<th>Organization</th>
<th>Position</th>
<th>Date</th>
<th>Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marie Mörndal</td>
<td>Mälardalen University</td>
<td>Lecturer School of Sustainable Development of Society and Technology</td>
<td>12/05/09</td>
<td>Email</td>
</tr>
<tr>
<td>Peter Aspengren</td>
<td>Mälardalen University</td>
<td>Learning Technology Consultant. Centre for Pedagogy, ICT and Learning</td>
<td>14/05/09</td>
<td>Face-to-face</td>
</tr>
<tr>
<td>Daniel García La Barca</td>
<td>IKEA</td>
<td>IT / Op Säk ansv IKEA Helsingborg</td>
<td>11/05/09, 15/05/09</td>
<td>Email, and Phone</td>
</tr>
<tr>
<td>Ricky Holmgren</td>
<td>IKEA</td>
<td>IT / Op Säk ansv IKEA Västerås</td>
<td>22/05/09</td>
<td>Phone</td>
</tr>
</tbody>
</table>

*Figure 2: Interview information (source: the authors)*

#### 2.2.2 Secondary data

The aim of gathering secondary data is to accomplish an understanding of the prior research work and the theories that were developed from those. Secondary data offers the authors more variety of materials that are used to discuss in the analysis part, as the data collections will requires less time consumption. (Smith, 1995)

The secondary data comes from several sources such as textbooks and articles. The finding depends on the browsing from the internet and library search. Although the research topic was mainly focuses on e-Learning, the authors applied several theories and data from different fields of study including Information Technology (IT) and Business Administration. The authors considered that necessary since e-Learning perspective is concerned with the linkage of learning and technology in organizations. In order to describe that the technique to manage to collect theoretical framework and other field of research articles for this study, the authors desired to present the data collection in term of literature review and article review.

Fisher, (2007, p.125) suggests that, to create the theoretical framework after deciding the research topic, this stage is to review the literature to create an initial understanding of the research area. Therefore, the literature review in theoretical data consists of a variety of literature including textbooks, journals, articles, magazines and electronics database search. In addition, textbooks provide a broad and reliable source of information while articles and journals present more precise and current
data on the focused area. In order to understand an overview of the research topic, there are several relevant secondary sources were approached in IT and e-Learning in organizations. However, there are various textbooks available, which are required to conduct this research.

Furthermore, the authors had also given attention to articles and research papers as an option to get the up to date and developments related to the research topic that were retrieved from the electronic databases, such as Elin@Mälardalen (an online journals and articles database available from Mälardalen University), Emerald, JSTOR and Google Scholar. In addition, Internet was also used to search for mutually straight information and subsequent data about the selected organization.

2.3 Analysis of information

There are five types of research conduction that are Ivory tower, realist research, interpretive ethnographic research, action research, and critical social research (Fisher, 2007, p.41). Since the purpose of the research was to study the management of e-Learning in academic institution and commercial company in order to identify the implementation of e-Learning, and afterward create a framework of managing e-Learning in organization which can present for both academic and business organizations. Thus, the type of our research conduction could be identified as realist research. Fisher (2007, p. 41) illustrated as the realist research is identifying and evaluating options for action. Therefore, the authors divided the information gathered into different parts associated with the interviews of our two target organizations.

The secondary data was collected from several sources from textbooks and articles, Internet sources and library search. After making a critical literature review, a conceptual framework is created. Then the authors gathered information from many sources in terms of articles and researches to get the idea of e-Learning management in general.

The authors created several interview questions from the conceptual framework for interviews. Since limitation of time, the semi-structured interview was conducted as an option to get information from organizations to support our framework not to make a case study. The interviews with the organizations also helped the authors to visibly understand the management of e-Learning in organizations.

In order to present a critical spot in analysis, the authors used various articles and academic textbooks to analyze the management of e-Learning in selected organizations. The authors intended to describe and compare the development of e-Learning in academic institution throughout the implementation e-Learning program in business organization. The analysis of information enabled authors to employ a conceptual framework of managing e-Learning and identify the similarities and differences of implementation in both organizations.

The authors believed that interviews and analysis present the qualitative results. Therefore, the combination of this made us assure that the conceptual framework could be effectively developed to the entire organizations.
2.4 Validity and Reliability

Validity is one of criteria to assess a research how the result of research is truthful. Arranging interview can increase validity as it gives the opportunity to interviewee acquired explicit information. Yin (2003, p.36) demonstrated that it is essential to secure the validity by using many sources of evidence. Additionally, Yin (2003, p.37) described the possibility of generalization of a research. The results of research should be generalized beyond the research context.

On the other hand, Yin (2003, pp.37-39) further explained that reliability is to assess a research that a result from a research should be consistent if the research is conducted the same procedure as a previous research. The aim of reliability is to minimize the errors and biasness in a research. It is considered that a research that raises the same result repeatedly has a high reliability. Whereas, a research that gives the different results has a low reliability. Therefore, to secure the reliability of a research a detailed data of the procedures is crucial.

In this research, the validity of the theoretical part of this research was secured by using multiple sources such as academic textbooks and articles, which made the secondary data reliable. Therefore the authors guaranteed that the data has a high reliability. Furthermore, the authors have collected the primary data from two sources, IKEA Sweden and Mälardalen University. The interview questions were based on theoretical data that were derived from the theories in textbooks and articles presented in this research. The questions were thoroughly developed that the interviewee can understand them and give unquestionable answers. All of the interviews in this research were arranged by using semi-structured interview with open-ended questions that allowed interviewee freely express their opinions. Therefore, the authors believed that this research strengthens the validity of this study, however, this research dealt with only two specific organizations, its results might be lower in validity of the information.
3. Literature review

In this part the authors express the review of literatures that are applied to be a guideline for this thesis. The issue began with definition of e-Learning, Learning Management System, framework of e-Learning, learning process in organization and the barriers of implementation. At the end, the authors develop the model of conceptual framework to present the research that lead to further empirical analysis and conclusion.

3.1 Definition of E-learning

There are various definitions of Electronic Learning (e-Learning) by different researchers and scholars. Rosenberg (2001, p. 28) holds that e-Learning is ‘the use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance’. Rosenberg (2001) has indicated that there are three basic criteria to define the definition of e-learning; first, the capabilities of e-Learning inputs new information, recovers, removes and distribute information; second, e-Learning interacts among learners via a computer and Internet connection; lastly, e-Learning is flexible learning. It goes further with the traditional training in many aspects. Critical learning conditions, such as reactions, motivators and information sources, are integrated and contained in an e-learning system. (Salomon et al., 1991 in Bennet & Bennet, 2008). Henry (2001) describes that e-Learning is the proper application of the Internet to transfer learning, skills and knowledge in a holistic approach not restricted to any courses, technologies, or basic structures. Not only use of Internet technologies but e-Learning also has broader definition. Cedefop (2002 in Villiers, 2004, p.285) views e-Learning is supported by information and communication technologies (ICT). E-Learning may encompass any or all electronic or interactive media including the internet, intranets, extranets, satellite broadcasts, audio/video tapes, interactive TV, CD-ROMs (Villiers, 2004; Silver, 2004; U homoibhi, 2006; Guha & Maji, 2008; Ali & Magalhaes, 2008;), streaming audio/video, web pages, computer files and online tests (Guha &Maji 2008).

According to literature reviews, the authors used definition from Villiers (2004); Silver (2004); U homoibhi (2006); Guha & Maji (2008); Ali & Magalhaes (2008) as our main definition of e-Learning in this thesis since this concept covered many aspects of e-Learning from researchers.

In recent years, Safavi (2008) states that e-Learning consists of “information technology” and “education and training”. In different view, Hutchins and Hutchison (2008) define that e-Learning is a way of learning to improve performance continues to gather multi-disciplinary interest. E-learning enables people to access system from anytime, anywhere, and anyone (U homoibhi, 2006). Ali and Magalhaes (2008) emphasis that e-Learning provides the appropriate information suiting for person and time and a person can adjust the information to be fit for the real world. Bennet and Bennet (2008, p.206) discuss ‘e-Learning systems are playing a leading role in both informal continuous learning and formal education structures in the business and academic communities’. 
Academies and corporations are developing e-Learning with substantial time and money investments (Wang et al., 2005). On the academic side, e-Learning enables students to access learning materials online to support learning demands and enables lecturers to delegate instruction, associate with their students outside the classroom (Hsbolla & Idris, 2009). The use of e-Learning changes the way of learning. It changes from the traditional learning by purely listening to the task-drive learning (Li, 2009). Softic and Bekic (2008) consider about organizational approaches to support e-Learning and university level. They found that e-Learning centre is a unit set up for supporting the learning demands of students and officers within institution, for the development of pedagogy and technology in real courses, and the development of the new technologies guided by theory and validated by observation of practice.

On the corporate side, Guha and Maji (2008) mention that e-Learning can be defined as instruction or techniques facilitated or transferred by electronic technology and it has the potential to revolutionize the basic convictions of learning by making learning on individualized basis rather than institution basis. Bonk (2004 in Kim et al., 2005) mentions that both potentials and challenges represent training professionals in e-Learning which generates numberless new technology, plentiful demand for prompted training, and significantly budgets reduction. To success in business world, employees must know the modern knowledge and technologies (Wang et al., 2005). Wang et al. (2005) further stated that employees can access the e-Learning to find the solutions to solve their work problems. E-learning delivers a standardized approach, so all employees access through the same learning practices (“The critical role”, 2008). Guha and Maji (2008) try to address an environment of e-Learning consisting of simulation, collaboration, and live workshops.

3.2 Factors influencing e-Learning

There are some researchers discuss in the topic of external factors that can influence e-Learning in organization. Abrahamson and Rosenkopf (1993;1997) commented that companies will adopt new technology such as e-Learning because companies do not wish to lost their competitive advantage. In the competition, if they do not adopt it, their performance will fall below the average performance of adopters. Haberberg and Binsardi (2002) also state in the same area that some organizations, the top managers or an association’s professionals who are specialized staff in technology are in charge of the decision making on e-Learning program. They are influenced people in organization to adopt high technological techniques of e-Learning program by the competitive community which they share their common learning paths and the same social network (Haberberg and Binsardi, 2002).

In addition, Ali and Magalhaes (2008) illustrated the model of e-Learning implementation that represents the factors including rapid technological change and rapidly changing competitive environments. These two factors affect the companies to develop their information and knowledge resources, which results in the motivation of human resources development. Ali & Magalhaes (2008) and Woodill (2004) argued that one of the key reasons for failure in implementing e-Learning not only in Western Europe but also in Asian countries like Kuwait is the technological rush.
Nowadays many e-Learning vendors develop and rush to sell their products and services in order to achieve larger market share. Some organizations early to apply the latest e-Learning tools in their organization which have not been followed up by a managerial readiness to comprehend all the strategic and operational implications of the new tools, which, in turn, has lead to a failure (Ali & Magalhaes, 2008). Furthermore, the companies in some developing countries found the technology infrastructure obstruct e-Learning. It is particularly for poor and distanced areas. However, there is yet a lot of things to be done to get accepted of e-Learning program in developing countries (Safavi, 2008).

Some common criticized issues in this topic are the change in technologies and the competitive environment can pressure and affect e-Learning in organization.

### 3.3 Learning Management System

The focal element of implementation of e-Learning is e-Learning software. Learning management system is one type of e-Learning software that can be used alone or combined with other software, such as programming languages, authoring packages, content management systems, and learning content management systems. Rosenberg (2001) hold that Learning management system (LMS) provides the functionalities using Internet technologies to manage the interaction between users and learning resources and creating an environment where employees can manage e-Learning on their own. Kapp (2003) discusses that learning management system is particularly designed to track the performance of learners. LMS can provide tracking and overseeing training programs (“What Counts”, 2005). In broader view, Rentroia-Bonito et al (2006) mentions LMS are web-based software solutions helps in e-Learning courses administration easier. LMS also establishes efficient processes for administrators, instructors, and learners. It provides transfer to course content, activities, discussion, collaboration, and monitoring (Rentroia-Bonito at el, 2006).

Pedagogy is one of factors in LMS used by an instructor to foster and facilitate learning (Minnesota State Colleges & Universities, n.d.). Syed-Khuzzan, et al (2008) described Pedagogical principles as theories that govern good practice of teaching. Pedagogical principles formed the primary tradition from the combination of teaching and learning. The most of pedagogical principles that apply for traditional learning may also apply to e-Learning. Pedagogical principles must form the very basis for incorporation of features in LMS. Therefore, e-Learning can not implementing without pedagogical techniques. In addition, e-Learning should be incorporation and consideration of domain-specific knowledge. The pedagogical principles are couple with e-Learning is well represented in a diverse linking science known as Instructional Technology. Thus, pedagogy and technology evolution are very close relationship in term of designing and managing educational systems. Schmees (2006, p.141) states that ‘LMS are community applications that support communication, provide access to different functions, and act as uniform portals’. Vrasidas (2004) mentions that LMS are used extensively in education and training. There are two categories of functionality on LMS that are the course administration & management and course pedagogy, teaching, and learning (Vrasidas, 2004). Like Cheung et al. (2009), they expose that there are three basic elements of e-Learning. Firstly, e-Learning should provide a Learning Management System or LMS, which consists of
administrative functions for curriculum design, communication, course content, discussion and evaluation. Secondly, it should have an effective information technology that can facilitate learners. Thirdly, a technology infrastructure should support LMS and e-courses.

The following figure (Figure 3) illustrates four areas of functions of learning management system, particularly, curriculum design, discussion and communication, performance assessment and course administration. Curriculum design involves transiting learning materials and designing course syllabus, learning schedule and class activities. Discussion and communication provide discussion forums, chats, electronic mails and files exchanges. Performance assessment refers to the assessment of assignments and tests and the tracking of study progress. Course administration provides student database, authentication, and system administration. (Cheung, 2009)

![Figure 3: Four function areas of a learning management system](source: Cheung (2009, p.43))

There are many factors affecting e-Learning. Martinz et al (2004) illustrate the affection factors that are the characteristics of the contents, the quality design, the instruction approach, the multimedia resources, the timing, the kind of activities proposed and the interaction. Many times the quality of a pedagogical design greatly affects the quality of human interaction and the results obtained from it (Inglis, Ling, & Joosten, 1999, in Martinez et al, 2004). Cheung (2009) describes that an e-Learning environment comprises three basic elements that is a learning management system or LMS, a set of e-courses and a technical infrastructure including network connection, access to the Internet, storage, Ect. Sommerville (2004 in Safavi, 2008) develops five-column architecture for e-Learning. The five-column model presents the bases of architecture to delivery e-Learning effectively, namely; 1) Institutional planning 2) staff development, 3) the five central columns, 4) the learner –teacher, can be represented in the following figure.
The five central columns of LMS include a) student information administration, b) assessment of E-learner, c) evaluation of quality of procedures, d) evaluation the materials to ensure them suit and avail for e-learner needs, and e) technical support and help system depend on e-learners, e-teachers, administration requirement. (Safavi, 2008)

There are many types of interactions and functionality that can be arranged and coordinated by these systems. Rosenberg (2001) describes there are eleven core capabilities, namely, a common online course catalog, a common online registration system, an up-front competency assessment tool, the ability to launch and track e-Learning, learning assessment, management of learning materials, integrating knowledge management resources, organizational readiness information, customized report, supporting collaboration, and systems integration. In different view, Vrasidas (2004) states that learning principles for LMS support consist of 1) Learner-centered: An LMS should facilitate learners to manage their information, or activities; 2) Engaged and Active: An LMS should activate learning and problem solving; 3) Constructive: An LMS should suit for various kinds of learner interactions; 4) Situated and Contextual: An LMS should enable students and teachers to seamlessly connect real-world activities within class schedule; 5) Social and Collaborative: An LMS should provide the simultaneous communication tools; 6) Reflective: An LMS should consider on the learning process; 7) Requires prompt feedback: An LMS provide student feed and aid teacher monitoring. Kapp (2003) summarizes that both of academic and commercial learning management systems have common attributes that are the systems can track and record learner performance; the systems can track a number of using e-Learning in each site, and the systems can track spending time of using e-Learning in each course.

According to literature reviews, LMS can be consisted of many processes. First of all Design process is one of the most common in term of important factors to success in
e-Learning such as Vrasidas (2004) who argue that LMS should design for facilitate learners to manage their information, or activities, Syed-Khuzzan, et al (2008) comments on design should concern in Pedagogy principles, Rosenberg (2001), Martinz et al (2004) and Cheung (2009) also focus on design in LMS. Then communication process can cover some comments from Vrasidas (2004), Schmees (2006) and Cheung (2009) that LMS should provide communication between learner and teacher. Assessment and Improvement processes are the topics that some researchers also refer in their studies such as Rosenberg (2001), Kapp (2003), Vrasidas (2004), Cheung (2009), Safavi, (2008).

3.4 Learning process in Organization

There are some researchers discussed in the topic of learning process in organization. First, Buckler (1996) described the learning process in organization as a tool for applying several ideas. The authors will describe Buckler’s points later in order to represent the advantages when the organizations have implement e-learning system. In addition, Kawalek (2006) illustrated that the learning process will simultaneously apply design and knowledge in order to undertake action of organizational development when implementing e-Learning. Moreover, Kerkhof, and Wieczorek (2004) discussed in their researches that the design and scheme of learning process should easy to understand since it can make employees perform better. Thus, the process of learning can improve to positive connotation when implement e-Learning. Ali and Magalhaes (2008) and Henry (2001) agree that to succeed in e-Learning implementation, it demands the consensus of management commitment. It also demands changing management initiatives, understanding of cultural and technological obstacles, internal marketing and clear ROI metrics (Henry, 2001). Martinez et al (2004) consider that 'personal characteristic, attitudes and values, and the communication skills are expected to concern on e-Learning. Rentroia-Bonito et al (2006) discuss that to create and sustain e-Learning, it requires the institutional readiness with the new paradigm as a part of its strategy, culture, and internal practices. They added that the e-Learning investments consist of structural (technology, learning process, and instructional design) and relationship issues (users’ habits, competencies and communication patterns).

According to researches and literatures, there are various components consisted in the e-Learning process model. The authors would describe and justify as following:

3.4.1 Company policy deployment process

This approach is presenting the first in the e-Learning process. In term of company policy, the process has occurred in which the company develops, communicates, and implements the strategies and policies of organizational learning to meet both individuals and teams objectives (Buckler, 1996). Moreover, the company policy when implement e-Learning is concerns goals, values, organizational culture, and resources (Brown & Czerniewicz, 2008). A better in innovative policy in relation to use the technology and communication, the company can improve the usage of learning change.
3.4.2 Learning needs diagnosis

At the second step of the process, the organization’s strategy along with policy and development of learning needs are keys factors to achieve successful in diagnosis and prioritization. According to Buckler (1996), there are three steps which learning diagnosis can be described as following. To begin with, the process requirements can be define as a basis in developing learning technique in both individual and team. The next is assessment, which aims to found out the level of understanding knowledge and skills of people in organization. The prioritizing learning need present as the final step in learning diagnosis. At the same time, this step makes individuals and teams focus directly to vital areas when the timescale is limited.

Moreover, Chin (2008) signified the learning diagnosis that it can be understood as the mechanism of the learning system which contributes the learner profiles and behavior from the learning material and innovative methodology and come up with evaluates individuals and teams in organization of efficiency of e-Learning.

3.4.3 The learning support system

The third approach in e-Learning process, the learning support system is presented. Buckler (1996) illustrated that this stage concerns environmental creation which the top management has to design the learning strategy that facilitates learning style of the individuals and others techniques to support learning experiences. The key components as Mohammad (2009) had mentioned which concerns support system in organization are team, process, management and individual performance. There are several components consists in the learning support system describes as follows.

Systematic approach

A systematic approach is a process of learning which consists of designing, sequencing, implementing, and evaluating the support system with the aim to improving quality and effectiveness in systematically way stated by Dijkstra (2001). In addition, Buckler (1996) conditioned that this approach concerns learning support that contribute systematically to support toward developing and implementing new learning techniques to organization.

Leadership

A leadership team is an important factor that drives the new learning techniques to organization (Buckler, 1996). The implementation of new learning technique will not occur and develops successfully without the extensive work of managers and team leaders. Simon (2009) mentioned that the leadership or management support of the initiative learning will make others take and interest of the learning.

Team learning support

In term of team learning support, the stage requires changes in the way people work together, and support each other (Buckler, 1996). From the research, Barron (2006) shows that the successful strategy mentioned by the learners is group or team learning.
support which make them appreciated and take the advantage when implement e-Learning in the organization. Therefore, this activity aims essentially for changes towards effective team working.

**Individual learning support**

The individual learning support aims to recognizing and removing barriers of learning and allowing individual independent perspective to maintain high levels of motivation toward adopt new learning objectives. The learning support of individual aspects of interests can form a good representation of learning context which enhance the effectiveness of using e-Learning (Zhuhadar et al, 2009)

**Experimentation opportunities**

Buckler (1996) pointed out that this phase in learning process concerns opportunities of individuals and teams in term of minimizing and solving the problem of existing culture as well maximizing experimentation of new learning technique.

**Learning resource information systems**

The approach of learning resource information system intends to enable training and learning material to be launched to individuals and teams on an e-Learning basis (Buckler, 1996). Moreover, Siqueira et al (2007) cited it should be considered the learning resource of e-Learning in term of content and activities to represent the specific combination to individuals and teams.

### 3.5 Barriers to implement E-Learning

Barriers, which impact on e-Learning implementation, namely, impact on business goal, impact on job performance, and impact on organization culture (Ali & Magalhaes, (2008) and Henry (2001)). There are several barriers to the implementation of e-Learning which are related either to organizational or individual issues. In term of organizational barriers, lack of training is one barrier, which has impact respectively to individuals. However, the management support is required in term of financial and strategic planning. Lack of e-Learning awareness appears as the obstacle to organization in efficiently implementation the system. (Ghadah et al, 2008)

As for the individual barriers, Simon, (2009) pointed out the difficult to access information enables of implementation along with the interface of browsing the materials including technical application and workspace. In Hedman and Kalling (2002) has mentioned generally as the cognitive and cultures of particular person will affect on the usage of new technology as believe, norm and values are concerned. In addition, the difficulty of assessment as needed to confirm the understand of the users, technical staffs support who are available to help employees, study skills present the different level of understand and ability adopted (Safavi, 2008). Finally, lack of the specific need as language problem that occurs in content of others language required in different countries. (Ghadah et al, 2008)
There are many factors affecting e-Learning. Martinz et al (2004) illustrate the affectation factors that are the characteristics of the simulation environment, learners’ characteristics, learner’s technology skills and adjustment to the simulation environments. This concept can be related to the barriers for adopting new technology illustrated by Hedman & Kalling (2002). They state that cognitive and culture from individual can obstruct the change of IT in organization. To be able to use the new technology such as e-Learning the organizations require learning. People need to get rid of factors which enable the learning new knowledge and utilize that information (Hedman & Kalling, 2002, p. 235).

### 3.6.1 Cognitive aspect

The changes that are related to knowledge and commitment of management named as “Cognitive factor” which has its core issue in learning. Fickman (2000) has pointed that organization is continuing learn new technology and defuse this knowledge straightaway. Hedman & Kalling, (2002, p.237) mentioned further about diffusion model, which can be applied to knowledge and learning transmission in organization. However, individuals have different learning abilities to adopt and diffuse new technology. It was a period of times requires for people and as well processes and operation of management in organization for familiar with e-Learning. Some cognitive researchers perceived that learning is also an active process of transforming experience of individual different into organized concept (Natasa et al, 2008). Hence, Learning is the fundamental in creating competitive advantages for organization. Indeed, the learning process in cognitive factor, according to Kalling (1999), can be divided into four aspects:

- **Strategic learning:** At this strategic learning phase. Employees could get strategic knowledge and motivation to access recent learning technique.

- **Functionality learning:** In functional learning phase, it involves a broad available of internal and external knowledge for further development of individuals in term of using the e-Learning.

- **Resource learning:** On resource learning phase, the period of experience based individually is potentially important to practically using e-Learning.

- **Usage learning:** under this usage learning phase, the involvement of understanding how the e-Learning can improve activities and work ability in individuals prospective.

### 3.6.2 Cultural aspect

The other important factor to consider, according to Hedman & Kalling (2002, p.246-247) is *culture*. In general, the organizations used norms and values to define certain actions even through the actions are shown in either excellent or worth. It is hard or
rather impossible for individuals to work against these well-established norms and values. Occasionally, cultural factor itself acts as contrast to logic in decision making of individuals perspective. In term of e-Learning, there are not all decisions made by top management since norms and values affect both managers and users in organization.

Gear et al (2003) demonstrates that the value of culture in organization is that it can form the basis of learning and change. This communicative culture in organizations is an important factor in facilitating rapid assimilation of IT and organizational change. Reducing the barriers to culture can help to support employee cognition and motivation for utilizing e-Learning facilities. Moreover, Waller (2008) illustrated about e-Learning and organization that an organization, which has an established learning culture would regards as employees learn at least new things everyday.

### 3.7 Progress Reviews

To be successful in managing and developing e-Learning, the entire organizations need to keep an eye on process of implementation of new technology, program, system, process, and barriers. Thus, the e-Learning in organization will not be complete with out the progress review. Buckler (1996) illustrated that it is a process of several objective from the initial until developing and implementing new knowledge in to organization with the usage of both individuals and teams by evaluate with several question concerns particular parts and level. The progress review has been shown by Mohammad (2009) that this review can be used to determine performance trends and to plan for improve or modify to give the new knowledge of e-Learning to all participants. Moreover, the study shows that the progress review is an approach technique which those professionals do all the time. In organizations when implementing e-Learning (Roffe, 2002), the review can help to control and manage each and every steps in order to compare actual circumstances and real situation, as well as, predicted improvement in organization and promised management strategy and policy. According to Roffe (2002), this progress is a tool for judging activities, initiatives, programs, and result. The process is created to collected the mistake, and pick out the straight point in e-Learning program. The quality of assessment, performance of employees, risk and opportunity for organization, as well, as higher knowledge of individual and organization can be improve with the process of progress review in organization.

### 3.8 Conceptual Framework

After reviewing different literatures about implementing e-Learning, the authors develop a conceptual framework to describe how organizations manage e-Learning. Following figure represents the authors’ conceptual framework.
The framework was developed from critical literature reviews which show the management of e-Learning in organization. There are four important perspectives regarding implementation of e-Learning which are external factors, development of e-Learning Management System, e-Learning process, and barrier to implement e-Learning. Furthermore, to be successful in implementing e-Learning, organization needs progress review in each perspective. From researches and literatures, the authors find the literatures to make our conceptual framework clearer, in addition to present many ideas of researchers and organization cases that implemented e-Learning.

**The external factors**

The authors believed that it is important to know the external factors affecting organization in order to know why organization adopts e-Learning in organization. Organization might be forced to implement e-Learning by external pressures such as the uncertainty in investment in Information Technologies and innovation. In some researches show that organization seeks standardized responses to manage with uncertainty related to new development of IT and innovation. Organizations choose to imitate those organizations that have competitive capabilities in market or organization that are technological leadership as their reference model (for example,
Cisco is often referred to as a benchmark in E-HRM and e-learning in many conferences, studies and consultants’ reports) (Haberberg and Binsardi, 2002).

**E-Learning Management System**

E-Learning can not occur without e-Learning management system. The authors consider that there are four aspects concerning e-Learning that are design, communication, assessment, and improvement. In the recent decades, an e-Learning concept has been emerged. A number of Learning Management Systems (LMS) have been developed and become available in market. At the present time, there are several vendors produced e-Learning management systems to compete in the market especially in academic organizations, such as e-College, WebCT, Blackboard, Student Portal, etc. For instant, WebCT is the first learning management system that has been widely used in universities and education institutions (Cheung, 2009). Blackboard is another famous one. Since their mergers in 2006, WebCT and Blackboard has achieved the largest market share of learning management systems in academic organization market (Cheung, 2009). In recent years, a number of open-source of learning management systems have been developed and become competitive products in the market, for example, Moodle and Sakai. According to Chung (2009), those systems are not only LMS, which developed for academic institutions. But, there are also launched Docent, Saba, and Click2learn’s Aspen, which are systems that designed to suitable in business organizations.

Moreover, there are many LMS vendors produce several software or programs for business organization. However, a large amount of commercial software introduced by various companies is not useful for whole e-Learning programs since the vendors have been developed software for only short courses and/or single courses (Safavi, 2008). Some organizations focus not only one single course but they also look for long-term programs.

Some researchers criticized that Learning Management System in several academic organizations are often used in very ineffective ways. A major criticism is that many faculties and teachers use LMS to “put content online” without applying any pedagogical principles. The reason is not only because of the wrong design in LMS, but the lack of teachers’ skills is also a primary factor (Vrasidas, 2004). Teachers’ pedagogical and online tutoring skills are very significant for e-Learning. For example, the University of Ulster, UK, designed and implemented a compulsory training course for all new online teachers in order to ensure high standards in online facilitation (Donnelly and Turbitt, 2009). Moreover, the e-tutor training course was developed in order to provide potential online teachers with the necessary practical skills and knowledge to be assured and competent online facilitator, while concurrently benefit of an invaluable opportunity to experience an online course from a student's perspective (Donnelly and Turbitt, 2009). Teachers can gain a better understanding of students’ demands when they themselves become online learners.

According to Romero and Wyatt (2009), the challenges faced to developers of LMS are to develop such tools that they can better serve the needs of a various learners. For example, Western Kentucky University has showed as piloted and researched an enterprise class capture system which makes the capability of accessing the classes online or on an iPod or by a variety of mobile devices by developed Web 2.0
technology in distance learning. These LMS designs can deliver classes on Mobile Devices (Smart Cellphones / iPods / PDAs / Mp3s / Mobile Computers) for students. The new functionality of web 2.0 allows students of WKU to use the streaming, RSS feeds, and synchronization to their iTunes applications or to iPods. There is more used than having a complete copy of the lecture (Zhuhadar, et al, 2009). Furthermore, it shows that students no longer need to have a physical copy of lectures on their computers. Additionally, the result of the study presented by Zhuhadar, et al (2009) mentioned that providing the personalization features in the delivery methods increases significantly the amount of time of university’s online students models viewed, streamed and synchronized their lectures.

In commercialize industry, the planning and design process of the e-Learning management system is consumed a lot of time. According to Lloyds TSB, they found that 70 percentages of the e-Learning program at pre-launch time was spent on design and development processes, whilst only 30 percentages was spent on testing and refining the approaches and software (Ettinger, et al, 2006). Many organizations found it hard to match their technologies across different sites and different business units (Ettinger, et al, 2006). The challenges in design of delivering online e-Learning is employees and staffs perspectives which are distance based, and therefore have limited time to access online learning. According to Ettinger, et al (2006), there are different staffs that have their own desk/workstation. Occasionally, it may be necessary for organizations to aim for the small common group workstation for learners in order to be able to reach the intended e-Learning. This has an effect on the design. Ettinger, et al, (2006) mentioned further that in spite of the industry developing specifications, there are really rebuff of e-Learning standards. In this case, it means that there is no standardization of products to make e-Learning compatible with each other. Therefore learning contents may not be connected between different learning management systems (LMS). The organizations may not be able to track data or share contents between different e-Learning applications that running in the same organization (Ettinger, et al, 2006).

In addition, there are some comments from researches that LMS design has an affect to the constructivist of learning. Most of e-Learning instruction duplicates the traditional face-to-face education. Thus, it is argued that the main reason which unable to employing constructivist-learning principles for learner in e-Learning program is LMS do not support constructivist learning, as well as, do not provide communication with in organization which is the tools needed to engage in constructivist learning (Vrasidas, 2004). In addition, Vrasidas (2004) demonstrated that to be able to convey the constructivist in e-Learning program, the development process of LMS have to concerned following aspects. The first approach is tools and providences. This allows learners in organization are able to illustrate their knowledge in multiple ways. Second of all, tackles to support authentic assessment. The online assessment is mostly based on written essays, short answers, and multiple-choice quizzes. Thus, although the assignments of assessment do not match the instructional objectives of e-Learning course, the IT department is often uses the tools to create content-based kinds of assessment. At third aspect, there are distributed tools for important learning. Using video, audio, multimedia production tools, laboratory experimental tools, expert systems, etc. to allow learners build knowledge artifacts to represent their learning. Moreover, the visualization tools are present at fourth. It
allows learners to visually express and construct meaning. Finally, Communication tools allow learners and teachers to seamlessly interact.

Nevertheless, the research by Ettinger, et al. (2006) illustrated that Volvo Company presents the problem in designing as a case study that the design in learning management system can not serves the need of different types of learners. They have problem in delivering e-Learning to their financial services staff since those staffs were using PCs for the majority of their working time during their job. They were less likely to regard their PC as a learning and development tool (Ettinger, et. al, 2006). However, if people do use their PCs all the time, they may not want to learn new complicate system (Ettinger, et. al, 2006).

E-Learning process in organization

In implementation phase of e-Learning, organization have to concern the learning processes within their organizations. There is several researchers such as as Uhomoibhi (2006) commented that organizations need to concern in the process of seven parameters to be successful in implementation of e-Learning. According to Uhomoibhi (2006), the seven parameters are: (1) organizational support, (2) course development, (3) teaching and learning, (4) course structure, (5) individual support, (6) department support, and (7) evaluation and assessment. Moreover, Uhomoibhi (2006) stated that the availability of strong organizational support is vital parameter for e-Learning deployment and success. The entire organization has to recognize and acknowledge in changing the role of their employees and staffs to support e-Learning. In addition, a transformation process from traditional learning to e-Learning must be supported by organization’s strategies and management teams. Uhomoibhi (2006) also commented that individual support in e-Learning process is markedly different from the traditional one. Staffs and employees will learn as an outcome of an interaction with programmed instructional systems that have been long thought out and automated in some instances. The assessment in e-Learning program reinforces the learning approach. The adoption of particular learners is a necessary part of teaching and learning (Uhomoibhi, 2006). When talking about evaluation and assessment of learning, this process should be based on higher study order thinking skills since learners can adopt a deep holistic approach to e-Learning (Uhomoibhi, 2006).

According to Ye and Yan (2009), they presented a case of the development of a distance education college (DEC) in China. DEC has gone through the process of three developmental phases to support their distance learning system (Ye and Yan 2009 in Wang et al, 2009). First, they focus on teachers’ continuing education, and developed a test quality-assuring system and relevant rules to supervise its attached training centers. Afterword, they developed quality-first policy to enhance training modes, upgrade and build their resources and service support function. At the last stages, DEC established an online educational association to help their different local training centers carry out independent training (Wang, et al, 2009). These supportive policies let DEC have 68 distance education colleges situated in universities in China and the number of student enrollment reached 0.84 million in 2004 (National Bureau of Statistics, 2005 in Wang, et al, 2009).

In addition, the research from Ghadah Essa Ali and Rodrigo Magalhaes(2008)
showed that e-Learning in Western Europe are different from e-Learning in Kuwait since the reason of lack of management support in learning process in organization. The result of the study presented that top management in the surveyed Kuwaiti companies have failed to understand the need to adapt their management processes in order to combine e-Learning as a new strategic to concern (Ali and Magalhaes, 2008).

In the case of Cisco Company, Cisco developed supportive system for e-Learning in their organization by placing video-based instruction on the web (Santosus, 2004). In each month, Cisco uses video e-Learning system, which called vSearch, to present around 400 video training sessions for their staff. This system allows topics and forums such as product specification and information to be available on demand to their staff around the world. vSearch system let staff have communication in the change and development of products quickly via a simple change in the videos posted to the Cisco’s website (Santosus, 2004).

One organization that has success aligning its e-Learning strategies with employee preferences is Hewlett-Packard (HP). The HP Company has policy for training a global staff called “one size does not fit all”. This program allows its regional trainers in countries around the world to choose the best practice modes for training their employees and staffs (O’Leonard, 2004). The organization has found that there are some different in staff preferences for e-Learning around the globe. The result of e-Learning in Asia was that Asian staffs prefer instructor -presented or blended learning options. On the other hand, the headquarter offices based in United States and Europe found that employees and staffs prefer self-paced and instructor-presented learning approaches, respectively (O’Leonard, 2004). The result from this study shows that a single type of learning program may not fit all demand and expectation of all staff around the world. Consequently, HP created “cafeteria program.” This style of training is plans as their strategy. The program allows the company handled e-Learning program to be more flexible and may lead to an improvement in trainee performance process during implementing e-Learning in organization (O’Leonard, 2004).

**Barrier to implement e-Learning**

**Organization perspective**

To successful in reduce the barriers in e-Learning network in addition to the good software and hardware equipment as well as the course, the related organization behavior and the scenario factor are also significant. The online-learning will be hard to promote if organization ignore four main success factors. There are culture, advocacy, communication and the change within organization (Chen, et. al, 2009).

According to Ettinger, et. al. (2006), the research demonstrated with the case study of British Council and Volvo Trucks company. The two organizations have found that the introduced of e-Learning on a global scale consume additional costs and issues in terms of the need for local content and various language provisions. Moreover, Ettinger, et. al. (2006) mentioned further that the result of the studies showed that many staffs prefer to learn in their mother language. While using English as their business language, learning is a complex for them.
Chen, et al (2009) argued that high cost is one of the barriers to implement e-Learning program in organization. From the study, organization expends most effort to promote e-Learning into organization. These costs should spend more on constructing learning platform instead of well-educated teachers and teaching materials. Some organization too emphasized on the technique-oriented. According to Ali and Magalhaes (2008), the researchers also supported this idea that technology is dominant in e-Learning. Thus, it is also expensive unpredictable and can become obsolete. This make the initial stage in implement e-Learning require high cost such as some organizations invest in IT infrastructure as well as the ongoing costs of upgrading systems, very high.

Consequently, organization that have lack of management-mechanism can cause an imperfect learning environment in organization that can create barrier to success in the use of e-Learning, for example imperfect system with auto-managed and tracing mechanism (Chen, et al, 2009). In addition, the main purpose of implementing e-Learning in entire organization is significantly bewaring of cost condensation rather than purely learning knowledge (Ali and Magalhaes, 2008).

**Individual perspective**

According to the research, Ali and Magalhaes (2008) mentioned in the study that internal resistance to use technology in organization is another most noticeable problem in implementing e-Learning. No matter how well aligned with the goals of the business or well designed with the staffs’ skill specifications, e-Learning will fail if users resist it. If employees feel that e-Learning is complicated and creates more problems than benefits. Moreover, if they do not have proficiency knowledge to use it or cannot apply it to their own work tasks and projects, they will not feel comfortable using e-Learning. The situation stated lead to the individual resistant in using e-Learning program.

Furthermore, Ali and Magalhaes (2008) demonstrated that organization should change in the mindset of senior management and their awareness of training and learning in the workplace as a strategic commitment. The change should occur in the perception of staffs’ knowledge. Organizations need a transformation in the orientation process of management education with a view of e-Learning to reinforcing a mentality of change, efficiency and sharing of knowledge between organization and their staffs.

In addition, Bertea (2009) stated in term of academic institutional that students’ attitude towards e-Learning is influenced by its perceived advantages and disadvantages. The flexibility of learning schedule is an advantage since the students have the opportunity to learn from any distance place outside classrooms and no matter the time as long as they have an internet connection. Therefore students have the possibility to choose how they manage their activities. In this point they are encouraged to take full responsibility for their future and can responsible for assessing the knowledge and the abilities required for professional development (Bertea, P., 2009).

From the research by Kirsty and Anna (2004), the study presents in the case of banking industry in UK. The result shows that there is a low awareness of e-Learning
perspective in the organization. Many of these staffs are operating at senior management level, so it is crucial that they should have knowledge and skill about the implementation of e-Learning and how it will affect them. In addition, several employees and staffs have their personal interest in pursuing learning and development activities. Although, the survey of this report indicated that the respondents’ managers were supportive or partially supportive of learning and development, there are still some significant number of respondents indicated that their managers did not support their learning and development at all. Accordingly, Kristy and Anna (2004) illustrated further that the attitudes of employees toward managers could be varied indeed. Since some managers were highly supportive and others only worried that subordinates may move on. Employees need to embrace it and managers need to support it. Therefore, Vaughan and Vicar (2004) supported that the emphasis on a progressive creation of an e-learning culture is part of existing initiatives to dissolve the resistance to change.

The authors considered that the conceptual framework would be applied for any organization. So the next chapter authors selected two different industry organizations in order to use our conceptual framework throughout the analysis of empirical data obtained, then finally the authors concluded how these organizations implement their e-Learning concerning our conceptual framework.
4. Empirical Data

The following data is based on the interviews with two organizations, which are IKEA and Mälardalen University, in order to find out how these organizations manage their e-Learning.

4.1 IKEA

4.1.1 Company background

IKEA, an international home products retailer, was founded in 1943 by Ingvar Kamprad who formulated IKEA’s vision to offer a wide range of home furnishings with good design and function at prices so low that as many people as possible will be able to afford them. Originally the company sold pens, wallets, picture frames, table runners, watches, jewelry and nylon stockings or practically anything Kamprad found a need for that he could fill with a product at a reduced price. Furniture was first added to the IKEA product range in 1947 and, in 1953, the first IKEA furniture warehouse was opened in Älmhult, south of Sweden. In 1995 IKEA began designing its own furniture and become one of the most developed and leading companies of home furnishing industry in the world (IKEA’s website, 2008).

IKEA has more than 253 stores in 24 countries around the world, mainly in Europe, the United States, Canada, Australia and Asia by reaching demands of people with 9,500 home furnishing products. IKEA has 41 trading service offices in 30 countries (IKEA’s website, 2008). The company has about 1,380 suppliers in 54 countries. Those main suppliers are China, Poland, and Italy. The company employs approximately 127,800 employees spreading across functions such as purchasing, distribution, whole-sale, range, retail, support function, etc. The number of employees divided by region is 103,350 in Europe, 16,800 in North America and 7,650 in Asia and Australia. Sales volume for the financial year 2008 was 21.1 billion Euros of which are 82% in Europe, 15% in North America and 3% in Asia and Australia (IKEA’s website, 2008).

4.1.2 E-Learning background in IKEA

Mr. Daniel Garcia La Barca, Local-IT at IKEA Helsingborg, discussed in an interview that IKEA implemented e-Learning around 6 years ago since year 2004. According to the reason that IKEA is radical change and growing all the time. So, their business processes and challenges require more flexible and open ways for learning and supporting performance in organization. IKEA always strives to reduce costs, improve their work to be efficient and learn a sustainable fashion therefore “learning in organization” is one of the important factors for IKEA to reach their missions.
Nowadays, IKEA pay strong attention to e-Learning within organization. They define e-Learning towards a more comprehensive and broad concept. Mr. Daniel Garcia La Barca defined e-Learning as:

“Digital Learning, where more digital tools and methods are integrated into the Learning Design to create learning experiences that fulfill the business needs, learning goals and target groups.”

E-Learning can improve IKEA’s business by defining learning goals and analyzing every project contexts to design the best learning with appropriate media channels, formats and delivery method to staff. Staff can feel that they learn better and faster. In addition, staff can gain key knowledge more than before (Interview with Daniel Garcia La Barca, 11 May 2009).

4.1.3 Management of e-Learning in IKEA

External Factors

The implementation of e-Learning in IKEA was affected by competitive challenges and technologies evolution factors. The competitive challenges force IKEA to create innovative production and competitive management and strategies. IKEA learning center was established to find the suitable learning training and program from both outside and inside the organization since IKEA is a multinational company that faces many challenges from different target markets. These challenges impact on the way of developing e-Learning in IKEA. According to the change in technologies, IKEA always tries to understand what are the best solutions and technologies for supporting their businesses from a learner perspective. IKEA focuses with care on finding and developing new technologies that are suitable for their organization and aligning them with IKEA’s strategies (Interview with Daniel Garcia La Barca, 11 May 2009).

Development of e-Learning management system

The main IKEA’s e-Learning systems platforms are developed in-house since some learning projects were started as internal projects. The name of the e-learning system is called IKEA Learning Platform. There are many programs in IKEA Learning Platform, for example, webEx is the program for meeting and learning activities; IKEA food Safety; Security for cashiers; Ergonomics (IKEA’s website, n.d.). In addition, IKEA is looking to meet key internal drivers as reuse and combination of learning objects within organization. Mr. Daniel Garcia La Barca said that IKEA develop e-Learning in-house around 50%, while some learning materials are developed together with SMEs partners, and others are outsourced to other vendors. E-learning development is not centralized at IKEA. There are more than one department who are responsible for this process but IKEA’s Learning center is the one that conveys learning policies and activities for the organization. IKEA learning center is responsible to develop and select the suitable learning programs for IKEA. The design and development of Learning management systems are both outsourced to external suppliers or produced internally. In addition, the learning schedule is developed according to the learning goals, time constraints and production schedule. The designs of e-Learning management systems mostly focus on self-pace in learning. E-Learning in IKEA is designed to provide one training purpose per one
program with focusing in short-term. Some learning materials, such as web mail, are focused in long run, yet IKEA usually focuses in short term programs, which are decentralized from many departments and suppliers. E-Learning systems in IKEA were not designed to create the communication process between teacher and learner; on the other hand, most of them support self-pace in individual training (Interview with Daniel Garcia La Barca, 11 May, 2009). Additionally, Mr. Ricky Holmgren, Local-IT at IKEA Västerås, said in the interview that employees could suggest special programs directly to IKEA’s Learning center via e-mail or contact to their supervisors.

According to assessment and improvement processes, IKEA has the development teams that are responsible to maintain and develop the systems. Mr. Daniel Garcia La Barca stated that the development teams would receive and process feedbacks and report them to the management teams from different sources. IKEA also has a dedicated support team that provides assistance to end-users and administrators, for both learning and technical issues that are related to the learning system. The update and maintenance of the information and interface for e-Learning system will depend on each e-Learning program. Mr. Ricky Holmgren supported that most of the programs are always updated except only some important programs, which they will be kept for many years.

Figure 6: E-Learning management in IKEA
Source: the authors
E-Learning process in IKEA

IKEA has designed the learning process in organization that can support the entire life-cycle of the e-learning projects, which cover from the analysis and designation to the localization and maintenance processes. IKEA’s policies also support e-Learning in its organization. The Management teams and staff are well educated and trained to have a profound understanding of what e-Learning is, its benefits and how it can be important to them and the organization (Interview with Daniel Garcia La Barca, 11 May 2009). However, Mr. Ricky Holmgren stated that it is not compulsory for the staff in IKEA to use e-Learning. It is an alternative for the employees to learn by themselves. Furthermore, e-Learning programs in IKEA have a well support in terms of technologies and infrastructure to make learning in organization more effective.

Management of e-Learning barriers

IKEA is a multinational company, which have many subsidiaries, manufacturers and R&D bases located in different countries around the globe. Mr. Daniel Garcia La Barca stated that multinational company that has multicultural staff can obstruct the implementation and success of e-Learning. IKEA manages the barrier in different cultures and languages of staff in different ways; they work with a change in management plan when developing e-Learning projects by working close and together with the stakeholders, understanding the needs and proposing efficient solutions to the learner (target group) by creating a suitable working environment and learning styles. Mr. Ricky Holmgren also suggested that the company should be more promoting, even though staff know about e-Learning.

4.2 Mälardalen University

4.2.1 Company background

Mälardalen University is one of Sweden’s largest institutes of higher education (Mälardalen University, 2009a). Mälardalen University’s objective is to offer education and research of a high international standard. The University is one of the famous universities in Sweden, ranking 15 in domestic and ranking 1,039 worldwide (Ranking Web, 2009).

The University located in Vasteras city, which situated in the center of an expanding metropolitan area. There are two centrally situated campuses in Eskilstuna and Västerås. Both the Eskilstuna and the Västerås campuses have University Libraries. In addition to course literature, theses, electronic magazines and books, the library has both quiet carrels for studies in peace and quiet and also group rooms for project work. The University has plenty of places to study and students have access to computer rooms 18 hours a day. (Mälardalen University’s website, 2007e).

Mälardalen University has over 15,000 students with 60 programs offered and more than 750 courses (Mälardalen University’s website, 2009a). The University has four
schools with 47 professors (Mälardalen University’s website, 2009c). The figure below shows the University organization.

The University endeavors to make students attractive to the labor market once they have graduated. Courses and programs have been designed in co-operation with companies in the region (Mälardalen University’s website, 2009d). Mälardalen University has many international contacts and co-operation programs with institutes of higher education in some 30 countries around the world. All of the students at Mälardalen University have the possibility to study part of their program abroad. The University endeavors to provide more opportunities for exchanges with different countries around the world for the teachers, students, researchers, and administrative staff (Mälardalen University’s website, 2009d).

The University facilitates learning environment by providing computer facilities. At the library, there are computers that students can use. They are accessible during the opening hours of the library. Each department at the university also has its own computer facilities with Internet access for its students. The computer rooms are generally accessible seven days a week. (Mälardalen University’s website, 2008b).

4.2.2 E-Learning background in Mälardalen University

Mälardalen University has implemented e-Learning seven years ago since year 2002. The reason of e-Learning implementation is the rapidly changing environment in competition and technology. Mr. Peter Aspengren, Learning Technology Consultant of Center for Pedagogy, defined e-Learning in an interview as:

“We use e-Learning for our production which is education. We use e-Learning as a production tool for students. E-learning can be defined as a web-supported learning”
Mr. Peter Aspengren said that the benefit of e-Learning are that students can access the courses, and get lectures, films, demonstration, animation, etc., anytime and from any parts of the world. In addition, the university can use e-Learning to train its staff. Ms. Marie Mörndal, lecturer of School of Sustainable Development of Society and Technology, has different views about the benefit of e-learning that the benefit is “to offer flexible studies for many students, especially for people who want to combine work with studies”. She also pointed out that the objective of e-Learning is an attempt to reach more students.

The figure 8 shows the Pedagogy IT learning structure of Mälardalen University.

![Pedagogy IT Learning structure](source)

**Figure 8: Pedagogy IT Learning structure**  
*Source: Peter Aspengren, Interview, 14 May 2009*

### 4.2.3 Management of e-Learning in Mälardalen University

**External factor**

The external factors affecting implementation of e-Learning at Mälardalen University that is pointed by Peter Aspengren are as follows:

The first major force is the strong competition between different universities in Sweden, which is important for Mälardalen University to develop e-Learning. Swedish government also offers funds to universities that provide high quality of works and researches. Peter Aspengren stated that Dalarna University (www.du.se) is the leading competitor in the aspect of e-Learning technologies. Dalarna University has a lot of e-Learning courses and has become leader in e-Learning among universities in Sweden. Nowadays, the demand of students in a higher education is increasing gradually. Students require the university to have efficiency of learning management system, good web portal, and excellent e-mail service. Therefore, Mälardalen University, alike, other universities, tries to serve student’s need in order to attract them.
The second force, which is technology change also pushes the university to keep up with technology. The developed technology of Web 2.0 allows students in distance learning. So Mälardalen University tries to adapt to the development of technology. In addition, the government is also an important factor that forces universities to produce the distance education. The Swedish National Board for Higher education on behalf of Swedish government is the organization, which mainly provides financial support to each and every Swedish universities to produce instruction for distance learning purpose, which is known as e-Learning program.

**Development of e-Learning management system**

Mälardalen University mainly acquires e-Learning system by outsourcing form other companies. Mr. Peter Aspengren discussed that e-Learning system is used in Mälardalen University in term of general system. The university uses Blackboard system from outsourcing company and uses communication system and computer-based communication, such as, video conferencing software and home communication from Marratech (http://www.marratech.com), whereas, the University developed mail service and web service in-house. Mr. Peter Aspengren pointed out that the reason that Mälardalen University outsourced the e-Learning system because it was less expensive than in-house development. Blackboard was selected because it is the pioneer with educated program and it is the biggest learning management system company in the world. Mälardalen University want a set of softwares on Blackboard. In addition, Ms. Marie Mörndal stated that outsourcing was more efficient. The university did not need to have the competence for developing and maintaining the system.

In design process, teacher is responsible for the plans and designation for learning material and schedule. Teacher incorporates with people within the subject group. They have worked together quite close corporation. Each teacher develops their own content but uses a platform form Blackboard, so the icon and color will be the same but the content will be different (Interview with Peter Aspengren, 14 May 2009).

In term of communication, Learning system encourages the communication between students and students or students and teachers. The system provides two ways communication based on lectures. The communication process has much more importance in the university (Interview with Peter Aspengren, 14 May 2009).

For assessment, Mr. Peter Aspengren said that Mälardalen University did not have statistic to evaluate the performance of e-Learning system. It is difficult to evaluate the material by assessing student pass or not. However, university assesses students’ study progress. The university uses LADOK for student assessment. LADOK is a system for documentation of learning outcomes for students in Sweden which is required by the Swedish law. Additionally, Ms. Marie Mörndal stated that the university assesses students' study progress by tracking and following their performance in the system during a course and having possible special learning activities.

Figure 9 the authors illustrates the management of e-Learning in Mälardalen University as follow:
Figure 9: E-Learning management in Mälardalen University
Source: the authors
E-Learning process in Mälardalen University

Figure 10 shows that there are three departments responsible for managing e-Learning. First, Information department is responsible to design the web. Second, Information Technology department serves for services. Third, Pedagogy IT Learning is responsible for e-Learning platform and developing e-Learning. According to figure 6, PIL has two teams that are courses and ICT. Steering Group and IT- Council are responsible for decision to funding for e-Learning. According to insufficient fund, PIL is also responsible for the update and maintenance of the information and interface of the e-Learning system when something new comes up or when thing happens. PIL communicates with the vender and also needs help from Helpdesk because PIL is an educator who becomes a bit more technical (Interview with Peter Aspengren, 14 May 2009).

Management of e-Learning barriers

The management of barriers of implementing e-Learning (Peter Aspengren, Interview, 14 May 2009) are:

- **Funding** - It is the significant barrier of Mälardalen University for implementing e-Learning because the funds are provided by Swedish government so they need to allocate the funding effectively. The e-Learning implementation needs much money and energy. The university manages this barrier by organizing the limited funding effectively.
- **Tradition of teaching** - A lot of teachers prefer to have a lecture in a class because they want to improve their students by doing a better lecture. The university manages this barrier by encouraging these teachers to do e-Learning in order to improve their teaching.
- **Management team** – The management team does not support enough. To be successful in implementing e-Learning, the management team needs to move around and support all the time.
Different national cultures - Mälardalen University has many students from different parts of the world. The university manages this barrier by motivating students to use e-Learning, however, the university does not force students to use e-Learning.
5. Analysis

In this chapter, the authors present the analysis of information on the basis of our conceptual framework (Figure 5) by gathering information from literatures and interviews with IKEA and Mälardalen University as our supportive cases. Therefore, both the organizations are analyzed respectively in issues as following:

5.1 IKEA

IKEA focuses the company’s strategy as a crucial factor for the competition. The managers’ vision and procurement of training their employees prompt for competitive market with information providing through e-Learning. IKEA learning center was established as center for sharing knowledge in IKEA. Moreover, IKEA cooperates with retailers in small and medium size entrepreneurs to develop and find out the best solutions and technology, which respond to needs of market that change from time to time.

External trends

Ali and Magalhes (2008) commented that the external environmental trends are key impact that enables organization to implement e-Learning as a consequence of the global economy and response to market needs. In the case of IKEA, external environment also affects the changes and development of e-Learning in organization. IKEA concerns both the rapid change in competitive environment and technology change as the important environmental factors when the company manages the e-Learning implementation.

Changes in competitive environment in the industry enable IKEA to move from providing traditional learning program for employees to implementing e-Learning in the organization. The competitive pressures that IKEA should be the leading in the market as a pioneer in retail industry affect them to look for certainty and standard in learning perspective of their resources.

Another external key driver to e-Learning is a rapid change in technology. IKEA has been moving forward with technological infrastructures of comprehensive and modern techniques of learning insight where several electronic equipments have been used as tools and methods to integrate learning design to create the alignment of the business needs, learning goals, and experiences of learners. Technology, collaboration, and challenge are the qualifications of learning perspectives at IKEA. The company has been attracting the world’s confronted technologies that have capability to create faster innovative ideas. With advancement in technology, the company generates new products for business and markets, and improves everyday learning of employees in organization. Keeping in mind that the values of change in technologies in external surroundings, the company cautiously selects the best solution for supporting employees with e-Learning approach which could signify the success of business.
The development of e-Learning program in IKEA

In recent years, the e-Learning Management System modules for organization have been developed and became available in the market. The well-managed development of traditional LMS can significantly increase the efficiency of e-Learning. Although a number of Learning Management Systems have been developed and become available as competitive products in the market (Cheung, 2009), IKEA has been developing and managing the main learning schemes internally. The company has developed the e-Learning program called “IKEA Learning Platform” as a learning system in IKEA in order to substantiate and blend the learning objectives between traditional learning and digital learning. The project has started since 2004 and has been gradually developing to recent e-Learning.

According to Cheung (2009), a Learning Management System in organizations can be operated smoothly when the company considers four main elements, which are design, communication, assessment, and improvement. In “IKEA Learning Platform”, the program is managed to design and plan for learning system focusing on learning experiences which congregate business needs in competitive environment. Thus, the company designs the short-courses context with the appropriate learning methods, which can deliver key knowledge to learners and the business. The design for learning material is crucial for management of learning system. The company develops the learning materials together with retailers in small and medium size entrepreneurs to enhance the quality of learning resources and knowledge in the industry.

There are several e-Learning programs at IKEA. For instance, IKEA Food Safety is one of the contents in e-Learning program that provides employees in IKEA who work in foods and restaurants department with in-depth learning about making clean and tasty food at IKEA. Moreover, WebEx is another e-Learning in IKEA Learning Platform which is designed for meetings and learning activities that support especially IT staff who needs to resolve technical difficulty immediately. Furthermore, Security for cashiers is created for employees who have to stand at cashier counter that require knowledge to protect themselves from the unsecured circumstances in facing situation. The programs mentioned are merely part of a number of e-Learning programs presented in IKEA Learning Platform.

E-Learning programs in IKEA Learning Platform show that most of them focus on self-paced learning, which means that they concentrate mostly on the development in individual level, not concerning much in the communication processes between teachers and learners and between learners and learners. Self-paced learning at IKEA has been used to manage the organization’ learning management system which designs approach in particular courses, time constraints, and co-operative development.

Even though the discussion and corresponding are slightly concerned, the employees have to manage their own time and have their individual perspective to assessment of performance and learn lessons from the provided materials. To evaluate the learning goals and systems, IKEA has developed several tests and quizzes as an objective for evaluation of the learning activities and assess performance and effectiveness of e-Learning management system associated with business principles provide to people in organization. The improvement of learning management system as well affects the
efficiency of using e-Learning program. IKEA has dedicated the support team that is responsible for learners assistance to both learning and technical issues. This support team receives, evaluates and processes of assessments and feedbacks for different course contents and sources to find out solutions for the development and improvement of e-Learning program related to management strategies and business needs.

**E-Learning processes in IKEA**

The organization’s strategy along with policy and development of learning needs and supports are key factors to be successful in managing and implementing the e-Learning process throughout the entire organization (Buckler, 1996). IKEA concerns the policy that is issued by the management teams as company’s strategies to critically support e-Learning. The management plans for localization and maintenance have been launched for supporting the learning design. Thus, the IKEA Learning Centre, located at Helsingborg city, Sweden, was established according to management policies and strategies. The learning centre at IKEA was invented to support and justify several purposes concerning IT in organization in order to create effective e-Learning program. Therefore, the process of learning in IKEA is created to support the entire life-cycle of e-Learning project that changing and growing all the times.

In term of learning diagnosis, Buckler (1996) illustrated that the assessment that aims to find the level of understanding, knowledge and skills is a tool of e-Learning process diagnosis. There are several departments under IKEA Learning Centre, for example, Capacity strategy and Delivery efficiency division, Program and Project management division, Human Resource department, and etc., who are responsible for contents and learning assessment together with ideas to make suitable knowledge for learners and evaluate the effectiveness system.

The learning support system is another key success driver in e-Learning process within organization that was signified by Buckler (1996). The availability of infrastructures and technology present IKEA with ability and punctuality of management supports in facilities and equipments for improving and developing team and individuals learning support system. It is also related to their business goals and strategies that the challenges in business require more flexibility and performance.

IKEA represents the organization that manages their e-Learning process based on physical support together with management policy and strategies. The sufficient availability of infrastructures and technology facilitates the accomplishment of e-Learning process.

**Problems and barriers management**

According to Ali and Magalhaes (2008), the organizations are exceed in gathering barriers of need for local content and various language provisions. It seems to show that many staff prefer to learn in their mother language.

In order to reduce the barriers in organization, IKEA uses e-Learning as a part of strategic plan by creating vision for management team that makes them understand
and demand to use e-Learning programs. In addition, a management plan associated with co-worker and organization stakeholders permits IKEA to launch the management support strategies and allow each region headquarters to implement and develop e-learning program that is suitable for their resources besides with the excellent solution to business. Moreover, IKEA’s policies and mission also support learning within organization since learner can develop their resources in effective way. Then IKEA created IKEA learning center to be the center of knowledge provider in organization. This department is responsible for providing the e-Learning courses that are fit with IKEA’s strategies and managing the problems in implementing e-Learning in organization.

In term of management of barriers in individuals perspectives, Ali and Magalhaes (2008) illustrated that organization should change the mindset of management and employees on their awareness of training and learning in the workplace as a strategic commitment. The change should occur in the perception of staff’s knowledge. IKEA has managed the tactics to get rid of the barriers in the individual perspective with the approach to make their employees understand progressively what is e-Learning and the way that learning benefits in individual knowledge and the organization respectively.

The more employees understand how e-Learning works and the way it benefits company, the more success management of the barriers of implementing and adopting e-Learning in IKEA will become successful.

5.2 Mälardalen University

Mälardalen University implemented e-Learning as an educational tool to support students’ learning. E-Learning in Mälardalen promotes communication processes between teacher and learner for a distance learning purpose which student can study anywhere outside university. Mälardalen University focused on Learning Management System as a factor to develop e-Learning program especially courses contents. Thus, Blackboard program has been selected to use as a tool in Learning Management System in the organization in order to manage and develop e-Learning program. Therefore, teachers are important since they are directly responsible for the course materials. In addition, there are few e-Learning platforms in Mälardalen University because e-Learning in university focuses in long term, one platform provides all course contents for the whole department in organization. E-Learning in Mälardalen University is centralized.

External trends

The flexibility and the connectivity of e-Learning solutions facilitate distance learning and workforce training. The technology infrastructures and competitive pressures are key factor for an organization to develop and implement e-Learning program (Ali and Magalhaes, 2008). Mälardalen University was forced by competitive environment to implement e-Learning program by growing up students learning behavior. The Swedish government is a key factor that drives Mälardalen University to keep pace with the rapid change in competitive environment of academic organizations since the quality of e-Learning program needs to be improved in order to compete with other
universities in the industry and attain the financial budget from them. Because of these competitive pressures, Mälardalen University adopted e-Learning with the organization policy to use it as a tool to achieve the efficient.

According to Ali & Magalhaes (2008), one of the key external reasons for implementing e-Learning in organization is the technological rush. Mälardalen University has considered the change in technology of web 2.0 which widely use in the global markets. Since the web-supported learning has been defined for e-Learning program at Mälardalen University, the important of distance learning and web base 2.0 influences the university to take response in implement the e-Learning program that fulfill the demand of the learners and as well train the staffs to new knowledge.

At Mälardalen University, the rapid change in technology associated with the competitive environments which pressure from the government to serve the distance learning and funding the development are playing the important role in external environment trends to influence the implementation in Mälardalen University.

The development of e-Learning program in Mälardalen University

Mälardalen University has considered of the general interpret of the learning system as well as global standard as a key drivers related to the decision making of the management team to outsources the development of the learning management system platform to Blackboard company. Moreover, Marratech, videoconference, has been used in Mälardalen University to create the communication solution between teachers and students and coordinate with other staffs themselves.

According to Cheung (2009), there are four fundamental elements which are design, communication, assessment, and improvement can be managed smoothly when develop a Learning Management System in entire organization. Mälardalen University has considered the design of the learning system to be general which can apply for several purposes. Since information was provided by the university is presenting in term of electronic courses and content, the design of system has to be broad and simple to serves both staffs and students.

The communication process, which encourages the students and teachers to exchange and transfer information and course material, are primary concerns in the university. Mälardalen University is appreciated to develop two ways communication that effective and efficiency that support the management strategy of the university that want to make the productive students to the global market.

The assessment of the assignment has created by system administrators, to evaluate the usage and performance of teachers and students. Mälardalen University has collected the statistic of data concerns the e-Learning but there is none of resources involve in administrative that can investigates those data properly. In term of improvement, Mälardalen University has the department named “Pedagogical IT Learning” who mainly concerns of evaluate and improve the learning management system leads to further success of implement e-Learning.
Communication and discussion are the proprietary element that Mälardalen University considers as primary approach in Learning Management System when manage the e-Learning program.

**E-Learning processes in Mälardalen University**

Mälardalen University has concerned the learning diagnosis of the pedagogical material provides the knowledge and assessment to all people in organization from the teachers to students. The diagnosis of learning pedagogical has set as organizational strategy and policy to evaluated performance gradually from the university to teachers with test and quizzes when participate in learning courses, and from teachers to student with examination and communication when take courses, respectively via e-Learning program. Moreover, Mälardalen University has provided learning support system, which consists of IT infrastructures and technology along with modern technique. The computer and technological equipments together with the IT help desk are available to all students and university’s employees. The centralized organizational structure is represented in Mälardalen University therefore the top management can create strategies to support learning systems in organization. Our interview with Mälardalen University presented that lack of management support has occurred in term of vision and funding that make direct effect on manage the effective of e-Learning process.

Pedagogical and learning support systems are important factors in Mälardalen University since these factors are directly affecting the learning progress in students. Furthermore, management support in terms of policy and organization’s strategy also require in this process.

**Problems and barriers management**

According to Ali and Magalhaes (2008), organization needs to be supported in terms of financial and strategic planning. Therefore, the enormous investment is presenting the significant barriers for implement e-Learning in entire organization. Mälardalen University is supporting directly in several categories for instance information, financial, technology and policy by Swedish government. Thus, the main obstacle in implementation of e-Learning program for particular university is found as funding or government financial support.

The lacks of management support in organization as well as the insufficient of financial support in organizational level enable the barriers of implement effectiveness of e-Learning program. In addition, Mälardalen University needs more support from policies and management team strategies since the management team does not support enough and management team and staffs still not well understand e-Learning in their organization.

According to Hedman & Kalling (2002), individuals have different learning abilities to adopt and diffuse new technology. Mälardalen University also faces with this problem. Many teachers prefer traditional teaching because most teachers have opinion that student’s learning progress depends on only teacher’s teaching skill. Teacher will improve their lectures in case students do not understand their lectures. Mälardalen University has managed this kind of barriers by encourage teachers to do
other ways of teaching that is e-Learning. In addition, university stimulates teachers to be aware that good teacher is always a good teacher even they are not teaching in classroom but in e-Learning platform.

Moreover, Gear et al (2003) stated that the value of culture in organization could form the basis of learning and change. However, Mälardalen University has many students form different part of the world. They have different cultures. Mälardalen University cannot discriminate people because of the respective in equality in social’s duty, genders, and age. In addition, Mälardalen University does not appreciate to force and abuse students to passionate on e-Learning program but motivation has been use instead.

5.3 Comparison between Academic and Business organizations

In this part, the authors presented our discussion from literatures and primary empirical data in general idea of academic and business organizations to find out some similarity and different point of views. Furthermore, the authors did not make a case study analysis but use these empirical data to support these issues.

E-Learning objectives between Academic and Business organization

E-Learning systems are playing a leading role in both informal continuous learning and formal education structures in the business and academic communities. The different issues occur since the definition or objective from different types of organization are dissimilar. Although many researchers defined e-Learning as learning through any or all electronic or interactive media including the internet, intranets, extranets, satellite broadcasts, audio/video tapes, interactive TV, CD-ROMs, etc., organization adopted e-Learning and defined it in the most suitable with their organizations.

Academic organization was the first organization that adopted e-Learning and there are many researchers who studied concerning e-Learning in school and university topics. On the academic side, e-Learning enables students to access learning materials online to support learning demands and enables lecturers to delegate instruction, associate with their students outside the classroom. The uses of e-Learning changed from the traditional learning by purely listening to the task-drive learning. Mälardalen University also defined e-Learning as a tool for education not a tool for staff development. Students can open courses, get lectures, films, demonstration, animation, etc., any time any part of the world. In addition, the objective of implement e-Learning was to offer flexible studies for many students, especially for people who want to combine work with studies. Moreover, another objective of e-Learning is an attempt to reach more students.

On the corporate side, to success in business world, employees must know the modern knowledge and technologies. So the objective of e-Learning in business organization is to allow employees to access the information and solutions to solve their work problems. E-learning also deliveries a standardized approach, so all employees access through the same learning practices. According to interview with IKEA, IKEA also support this objective since IKEA developed e-Learning to train their staffs by
develop self-pace learning that can lead to serve the business need since IKEA always strive to reduce costs then e-Learning can improve employees’ work to be efficient. They defined e-Learning as digital learning that create learning experiences and can fulfill the business need.

External trends

According to our literature review, the authors found out that external factors are influenced the implementation of e-Learning in organization. Pressures from competition in industry and the changes in Information Technologies are the most significant factors affected organizations. Our studies from the cases of IKEA and Mälardalen University also support this idea. E-Learning in both IKEA and Mälardalen University are also affected by the competition and IT factors. However in the case of Mälardalen University that represented academic organization, they also affected by the Swedish Government.

E-Learning management system in Academic and Business organizations

The academic and business organization shows that the important of LMS in organizations are widely interested in four mainly areas which are design, communication, assessment, and improvement. In business, the organizations have to make design creation matched the preference of the particular learning projects and reach individual preference. While, academic organization influences communication process between users, which will address key issues from context, people, and technology to make the e-Learning more successful. Most researchers study e-LMS in aspect of academic organization since LMS is a vital factor for implement e-Learning in school and university. Mälardalen University concentrates in course contents and communication processes. E-LMS in Mälardalen University was developed in long-term program such as Blackboard platform. University merged all courses and contents in one e-Learning platform. In the different view, IKEA usually developed LMS that scope in short term since one e-Learning program support one training skill. In addition, IKEA focus in self-paced learning in individual level which not necessary to have the communication processes between teacher and learner.

E-Learning processes in Academic and Business organizations

The successful management of e-Learning process that illustrated from the policy as management team strategies, along with learning diagnosis, which is pedagogical principles are embedded, the infrastructures and technology that supported learning system, are likely the important factors that both academic and business organization have to carefully manage to achieve e-Learning program.

IKEA’s policies and missions focus on learning in organization. IKEA learning center provided e-Learning information and programs for staffs. Management team and all staffs in IKEA knew the benefit of e-Learning in terms of individual development and whole organization. IKEA as business organization concentrate in management team and staffs as success factors in implementing e-Learning.

Mälardalen University comments on learning diagnosis such as Pedagogical learning as important factor for academic organization. Teacher’s skill in e-teaching and
pedagogical teaching is important factors that direct impact on e-Learning in Mälardalen University.

Management of barriers to implement e-Learning

The barriers to implement e-Learning in both academic and business organizations can be reduced and changed to effective when well mange of barriers in organization level and individual level is occurred.

According to primary data, IKEA represents business organization and Mälardalen University is representing academic institution. Both of organizations faced barrier in organization level since IKEA has problems in management of multi culture from different office and department in different countries around the globe and Mälardalen University has problems in management team support.

On the other hand in academic organization, Mälardalen University represents the institute that they centered e-Learning in one department to provide learning information and coordinate with departments in organization to promote and make staffs clear in the implement of e-Learning program. Mälardalen University shows that the management team support is also crucial even in academic organization. The university can develop and success in implementing e-Learning when the management team are understand and well manage to support in powerful and excellent techniques and strategies in order to deficient the barrier in organizational level.

IKEA and Mälardalen University also faced individual barriers, which came from multi culture and language of staffs. In addition, Mälardalen University has to manage not only staffs but also learners in terms of students. Therefore they use the same system, Blackboard, to teach staffs and students. With the same system staffs can learn how to use e-Learning system and can pass on knowledge to their students.
### 5.4 Summary of discussion issues from IKEA and Mälardalen University

In this part, the authors tried to present the empirical data in terms of comparison to make reader easy to understand. In addition, this table will be used for supporting our general idea about e-Learning in academic and business organizations.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>IKEA</th>
<th>Mälardalen University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective for implement e-Learning</td>
<td>Training staffs by develop self-pace learning and serve business need</td>
<td>Web support learning to be tools for education not tool for staff development</td>
</tr>
<tr>
<td>External Factors</td>
<td>Competition and Technology forces</td>
<td>Competition, Technology and Government policies forces</td>
</tr>
<tr>
<td>E-Learning Management system (LMS)</td>
<td>1. Short-term program design</td>
<td>1. Long-term plan in program design</td>
</tr>
<tr>
<td></td>
<td>2. Have many e-Learning management systems from different suppliers and from building in-house</td>
<td>2. Have two main e-Learning management systems – Blackboard and Marratech</td>
</tr>
<tr>
<td></td>
<td>3. Develop in-house and outsource</td>
<td>3. In-house mail and website / Outsource Blackboard and Marratech Video conference system</td>
</tr>
<tr>
<td></td>
<td>4. one program for training one skill (Decentralized)</td>
<td>4. Centralized e-Learning system one program for all learning skill</td>
</tr>
<tr>
<td></td>
<td>5. LMS focus in self-pace learning not convincing communication between teacher and learner</td>
<td>5. Communication process between teacher and learner is important for e-Learning in MDH</td>
</tr>
<tr>
<td></td>
<td>6. Evaluate system and improve</td>
<td>6. No system evaluation</td>
</tr>
<tr>
<td></td>
<td>7. Some programs have no teacher</td>
<td>7. Teacher is very important factor that take vital part in every program in e-Learning. / Teaching in pedagogical skill and knowledge in using e-Learning tools are important</td>
</tr>
<tr>
<td>Criteria</td>
<td>IKEA</td>
<td>Mälardalen University</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>Learning processes</td>
<td>1. Policies and management support</td>
<td>1. Not have good cooperation from policies and management team</td>
</tr>
<tr>
<td></td>
<td>2. Well educated for management team and staffs to understand e-Learning and benefit of it for individual and organization</td>
<td>2. Management team and staffs still not understand e-Learning in organization</td>
</tr>
<tr>
<td>Barriers</td>
<td>1. Multi cultural and language of staffs</td>
<td>1. Multi cultural and language of staffs (teacher)</td>
</tr>
<tr>
<td></td>
<td>2. Multi cultural and language of students</td>
<td>2. Multi cultural and language of students</td>
</tr>
<tr>
<td></td>
<td>3. Funding</td>
<td>3. Funding</td>
</tr>
<tr>
<td></td>
<td>4. Traditional idea and teaching skill from some teachers</td>
<td>4. Traditional idea and teaching skill from some teachers</td>
</tr>
</tbody>
</table>

*Figure 11: The comparison between IKEA and MDH (Source: the authors)*
6. Conclusion

To be success in managed e-Learning, the organization was not only invested in information technology and provide excellent learning material, but also needs to focus on management team support which should start from senior managers to make a supportive policy and strategy that occur in learning process to create an organization and individuals’ learning culture. Moreover, organization needs to transform structure and find superiority project team who can operate and manage all e-Learning processes within the organization in order to build up working environment that support knowledge for learners and reduce individual resistant.

To manage e-Learning, organization have to concern in four important processes. First of all, external factors that organization cannot control but should try to understand their market situation and adjust some important change to develop e-Learning to become more update. Competitive factors and changes in technologies are most affect factors for organization. To compete in the market, organization has to concern what competitors’ trends or what the leader do with e-Learning to improve and change their e-Learning system. In addition, organization should develop or implement new technologies to adapt with e-Learning but that technologies should be fit with companies’ strategies. Then, organization will develop e-Learning management system that can serve the learning need in organization. The design should match with organization and can serve demand in learning. Individual preference is important issue to concern since some standard design cannot match all learners. Good learning management system should support communication process between both teacher and learners, and also learners and learners since communication can create more knowledge for learners. In addition, organization should have development team who responsible for assess and evaluate system and learners’ improvement to make a progress review that conclude the effective of system and can improve an e-Learning system. Third process of e-Learning management, organization should have policies that support e-Learning and educated management team and also with staffs to understand which direction organization will lead to and understand e-Learning and the benefit with individual level and organization level. Not only management support but also technologies and infrastructure support, organization should concern in this aspect too. Finally, organization has to concern in the barriers to implement since organization culture and also individual cognitive and culture can be obstructed the success in e-Learning.

There are two categories of selected organization that the authors were analyzed above. The differences of academic institution and commercialize corporation from literatures are represent different characteristics and ways of manage their e-Learning program. In addition, empirical data can supports the idea from researchers in the different between business and academic organizations. Figure 11 presents the different aspects and management of e-Learning in academic and business organization in general picture from literature reviews and our primary data support;
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Business organization</th>
<th>Academic organization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition and Objective for implement e-Learning</strong></td>
<td>Digital learning tools for training staffs by develop self-pace learning and serve business need</td>
<td>Distance learning / Tools for education not tools for staff development</td>
</tr>
<tr>
<td><strong>External Factors</strong></td>
<td>Competition and Technology forces</td>
<td>Competition, Technology and Government policies forces such as government support distance learning in Sweden</td>
</tr>
<tr>
<td><strong>E-Learning Management system (LMS)</strong></td>
<td>1. Short-term program design</td>
<td>1. Long-term plan in program design</td>
</tr>
<tr>
<td></td>
<td>2. One program for training one skill (Decentralized)</td>
<td>2. Centralized e-Learning system one program can support students learning</td>
</tr>
<tr>
<td></td>
<td>3. LMS focus in self – pace learning not convincing communication between teacher and learner</td>
<td>3. Communication process between teacher and learner is important for e-Learning</td>
</tr>
<tr>
<td></td>
<td>4. Some programs have no teacher</td>
<td>4. Teacher is very important factor that take vital part in every program in e-Learning. / Teaching in pedagogical skill and knowledge in using e-Learning tools are important</td>
</tr>
<tr>
<td><strong>Learning processes</strong></td>
<td>Focus in management and policies support</td>
<td>Focus in learning diagnosis such as Pedagogical learning</td>
</tr>
<tr>
<td><strong>Barriers</strong></td>
<td>Multi cultural and language of staffs.</td>
<td>1. Multi cultural and language of both teacher and learner.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Traditional idea and teaching skill from some teachers</td>
</tr>
</tbody>
</table>

*Figure 12: Comparison between academic and business organizations*  
*(Source: the authors summarized from analysis and conclusion part)*
First of all, at currently the definition of e-Learning is still broad and general since most of researchers defined e-Learning as a learning from different kind of electronic materials. This is a general idea of e-Learning but when organization implemented e-Learning, they gave new definition of their own by adapted these general ideas to fit with their organizations’ types. Academic organization defines e-Learning as distance learning which mean e-Learning as a tool for education in distance area not only in university or school but also student can learn outside school or outside building. In different aspect, business organization defined e-Learning as a tools for training their staffs to make their staffs development and serve their business need. These two definitions affected the different focus in e-Learning management.

The academic organizations are most concerned in implementing Learning Management System (LMS) than the others approach in the process since universities or institutes look for a long-term plan development for their e-Learning courses. Moreover, Teachers and E-content are mostly important issue identify by various academic researchers. Especially, in terms of academic organization, teachers are affecting directly to the learners. Teachers are required online teaching skill and support pedagogical with their students, which is the most important in educational e-Learning process. Conversely, business based organizations are likely to attempting on find out short term system for each training aspect to spending the lowest expenses and promote towards the highest benefits to organization. Business organization will develop many program which can serve many skill that most suitable with position of staffs. The LMS from academic will focus in communication between teachers and learners but in business aspect some LMS are not need communication process but focus only individual learning.

According to our empirical data and some literatures from researchers, business organization focus learning process within organization as important process since the success for implement e-Learning in business organization is the support from policies and management team. Staffs in business organization should better understand the direction of organization and understand e-Learning system and know the benefit to make staffs use e-Learning system. Although in academic side, staffs should understand e-Learning and direction of organization, Pedagogical and teaching skill are the most important for success in implement e-Learning in academic organization.

Finally, the management of barrier from academic organization has to concern in both staffs’ and students’ cultural and cognitive factors in individual level but business organization concern in the aspects of staffs. In addition, school and university should pay attention in traditional idea from their staffs since teacher is the most important factor that can affect directly to learners. If teacher has low skill in using e-Learning or styles that not convincing Pedagogical teaching skill, student will have bad attitude in using e-Learning and the implementation will not success.
7. Recommendations and further study

Organizations pay attention in implementing e-Learning program should considered external factors, e-Learning management system, process of e-learning in organization and management of barriers which had exploit in this research in order to prompt to manage with several circumstances occur in organizations. The selected business and academic organizations represented by IKEA and Mälardalen University to analyzed conceptual framework made the authors believed that our framework is useful for entire organizations. Nevertheless, the general study of how do organization manage their e-Learning yield conclusion that even though they are slightly different concerning e-Learning management system and process of e-Learning had considered by business and academic organization respectively. The organization should manage carefully to implement effective e-Learning program.

Since organization nowadays not limit into only academic and business aspect, the authors feel that our research topic still need more further studies in aspect of e-Learning management in different perspective of organizations from several industries. In addition, the authors also hope that our research can generate some useful ideas for researchers to do the further studies in e-Learning management topics.
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Appendix: Interview questions

e-Learning Background

1. How does your organization define “e-Learning”?
2. When did you implement e-Learning? and Why?
3. What are benefits of e-Learning in your organization?

External Factors

4. What external factor influence in adoption of e-Learning?
5. How the rapid change in competition and technologies impact e-Learning in your organization?

Development of e-Learning

Design

6. How company acquired e-Learning system (Outsource or buy or develop in-house)? And Why?
7. How organization planed and designed for learning material and schedule? And are those designs encouraged the activities for the learners?

Communication

8. Do your e-Learning system encourage the communication between learners?
9. What is the communication processes in your organization?

Assessment

10. How organization evaluates performance of e-Learning systems?
11. How organization assesses their learner's study progresses?

Administration

12. What department or team responsible for developing e-Learning?
13. How often the teams update and maintain the information and interface of the e-Learning system?

e-Learning process in organization

14. What are learning processes in your organization before and after implement e-Learning?

Barrier to implement e-Learning

15. What are factors that make barriers to implement e-Learning in organization level?
16. Are individual's culture and language enabling the usage of e-Learning?
17. How organization reduces the barriers of individual's culture and other factors to motivate and utilize e-Learning to learners?

Thank you for your kind cooperation