SUPERVISOR DECLARATION

"I hereby declare that I have read this thesis and in my opinion this report is
sufficient in terms of scope and quality for the award of the degree of
Bachelor of Technology Management (Technology Innovation)"

Signature   : ....

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Date   : ....

INVESTIGATING FACTORS INFLUENCING UTEM UNDERGRADUATE
STUDENTS' SATISFACTION ON U-LEARN
E-LEARNING SYSTEM

MOHD AFFENDY BIN SULAIMAN

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of the requirements for the degree of Bachelor of Technology Management
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DECLARATION

"I hereby declare that this thesis is my own work and effort and that it has not been submitted anywhere for any award. Where other sources of information have been used, they have been acknowledged"

Signature   : ....

Name   : ....

Date   : ....

For my beloved family and friends

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ABSTRACT

The delivery of learning content through the use of internet is becoming very famous. Online learning provides students with flexible time, assistance outside the classroom, and access to the course materials at anytime and anywhere. Universities are now implementing the use of e-Learning as supplementary tool in learning process. Numerous university instructors now use some form of online learning in the delivery of their courses. This study explores the experience of students using e-Learning at a university. This research will assist instructors at university in understanding students' satisfaction and in the development and delivery of learning content, so that students' learning experiences will be enhanced. This study used and quantitative methods to measure students' satisfaction with U-Learn e-Learning System. Questionnaires were distributed to a selected sample of students that use U-Learn. The fully-structured quantitative questionnaires were self-administered. The data collected were analyzed statistically through the use of SPSS software. The study revealed important factors of online learning satisfaction are including delivery methods, content, interaction, and system operation. The findings also indicated that students' satisfaction with U-Learn e-Learning System is at moderate level.

ABSTRAK

Penyampaian kandungan pembelajaran melalui penggunaan internet menjadi sangat terkenal. Pembelajaran dalam talian membekalkan pelajar dengan masa yang fleksibel , bantuan luar kelas , dan akses kepada bahan-bahan kursus pada bila-bila masa dan di mana sahaja . Universiti-universiti kini melaksanakan penggunaan e -Pembelajaran sebagai alat tambahan dalam proses pembelajaran. Banyak tenaga pengajar universiti kini menggunakan beberapa bentuk pembelajaran dalam talian dalam penyampaian kursus mereka. Kajian ini meninjau pengalaman pelajar menggunakan e-Pembelajaran di universiti. Kajian ini akan membantu tenaga pengajar di universiti dalam memahami kepuasan pelajar dan dalam pembangunan dan penyampaian kandungan pembelajaran, supaya pengalaman pembelajaran pelajar dapat dipertingkatkan. Kajian ini menggunakan kaedah kuantitatif untuk mengukur kepuasan pelajar dengan e-Pembelajaran U-Learn. Borang soal selidik telah diedarkan kepada sampel pelajar terpilih yang menggunakan U-Learn. Soal selidik kuantitatif yang berstruktur sepenuhnya adalah ditadbir sendiri. Data yang dikumpul telah dianalisis secara statistik dengan menggunakan perisian SPSS. Kajian ini mendedahkan faktor-faktor penting dalam kepuasan pembelajaran dalam talian termasuk kaedah penyampaian , kandungan, interaksi, dan sistem operasi . Dapatan kajian juga menunjukkan bahawa kepuasan pelajar terhadap Sistem e-Pembelajaran U-Learn adalah pada tahap sederhana.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Internet has started reshaping education. The emergence of the internet enables the expansion in education opportunities, and allowed the learning process to be delivered online. E-Learning, is becoming increasingly important in all educational sectors, including increasing student expectation and engagement with technology, responding to a larger and more diverse student body, providing more flexible modes of study to allow for part-time working or work-based learning, and improving opportunities for enhanced learning and teaching, efficiency and increased collaboration, both local and global (Vat, 2011). This statement is parallel to Harasim et al. (1995), which remarked that e-Learning is a valuable addition to the teaching and learning environment in the face-to-face classroom situation.

E-Learning as a teaching and learning strategy has provided a lot more opportunities for students in the learning process and may have contributed to their academic performance (Topagur, 2010). In some universities, enhancing the quality of teaching and learning in on-campus programmes, through the use of new technology, is a primary goal; a common approach is to use e-Learning to supplement traditional teaching by providing an additional (sometimes optional) component in the teaching-learning process (Curran, 2004). This allowed flexibility to accommodate part-time study in or out of the classroom. Flexibility in e-Learning allow student to learn on their own pace and provides wide access to the additional materials at anytime and anywhere.

E-Learning strategies have been introduced into public universities in Malaysia since 1996 (Putih, 2007). Since the introduction of Vision 2020 in 1990s by the former Prime Minister Datuk Seri Dr. Mahathir bin Mohamad, followed by the establishment of the Multimedia Super Corridor and Privatization of tertiary education in 1996, E-Learning has been introduced widely and is encouraged to be implemented in education. This resulting to a dramatic shift from traditional method of learning to Internet-based learning and has greatly expanded the world of open and distance learning. Until now, almost all public universities in Malaysia have been implementing e-Learning, moving parallel with the current need of distance learning.

1.2 Statement of the Problem

The study explored the scope of E-Learning as supplementary tool in delivering lessons. There is still no measurement that revealed the students' level of satisfaction with the use of U-Learn e-Learning System in UTeM. Without the knowledge of students' satisfaction level, instructors will not be able to fully understand whether U-Learn has met its objectives and purposes, or its components require improvement.

1.3 Objectives of the Study

The aims of the study are as follow:
- To study the relationship between Delivery methods, content, Interaction, and system operation with students' satisfaction with U-Learn.
- To determine the most prominent factor that influence students' satisfaction on U-Learn.

- To measure students' satisfaction towards U-Learn e-Learning System.

1.4 Research Question

Research questions concern the input and direction of the study, defining what the study is about and reflecting the curiosity of the researcher (Alvesson & Sandberg, 2013). After conducting some research on the topic of e-Learning, the researcher finally developed research questions that will be further discuss in the research.

- Do delivery methods, content, interaction, and system operation have significant relationships with students' satisfaction with U-Learn?
- What is the most prominent factor that influences students' satisfaction on U-Learn?
- To what degree are students satisfied with the delivery and content of U-Learn e-Learning System in UTeM?

1.5 Significance of the Study

The study intended to measure students' satisfaction with the use of U-Learn e-Learning System in the learning process at UTeM. Therefore, this study can help instructors at UTeM to understand the relationship between students' satisfaction with delivery method, content, interaction, and system operation, thus, help them to make improvement to the components of the e-Learning. As a whole, the result will help university to determine how far the use of U-Learn is able to enhance the learning experience and improve knowledge sharing between students and lecturers even outside the classroom.

1.6 Scope and Limitation of the Study

This research was delimited to the use of e-Learning platform in Universiti Teknikal Malaysia and measuring students' satisfaction toward the use of U-Learn e-Learning system in the learning process. This study focuses on the context where e-Learning is used as a supplementary tool to enhance instruction instead of online learning course offered by the university. The research focused on the students at UTeM who use e-Learning as supplementary tool in the learning process.

1.7 Summary

This chapter discussed the background of the research and the statement of problem that triggers the need to conduct the research. Other than that, the objectives of the study, the significant of the study and the research question are also discussed in this chapter followed by discussion on and scope and limitation of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 Definition of Terms

This section will explain the terms used in this research. Terms here are conceptually and operationally defined for better understanding of the readers.

2.1.1 e-Learning

Holmes and Gardner (2006) defined e-Learning as online access to learning resources, anywhere and anytime. Another definition of e-Learning is the use of internet and digital technologies to create experiences that educate our fellow human beings (Horton, 2001). The definition preferred by the researcher is from Derek Stockley (2003), which defined e-Learning as 'the delivery of a learning, training or education program by electronic means'. e-Learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material'. The context of e-Learning in this research refers to the use of e-Learning as a supplementary tool to the main classroom teaching.

2.1.2 Satisfaction

Oliver (2010) suggested that satisfaction is the consumer's fulfilment response. It is a judgement that a product or service feature, or the product or service itself provided (or is providing) a pleasurable level of consumption-related

fulfilment, including levels of under- or over fulfilment. Meanwhile, Sweeney and Ingram (2001) define satisfaction as, "the perception of enjoyment and accomplishment in the learning environment". Wu et al. (2010) define satisfaction as "the sum of a student's behavioral beliefs and attitudes that result from aggregating all the benefits that a student receives from using the blended system".

2.1.3 Delivery Method

The delivery method of E-Learning is the medium to transmit the course content from the instructors to the learners (Lo, Ramayah and Hong, 2011). Flexible delivery is the provision of learning and assessment opportunities in modes which serve to increase students control over when, where, how, and at which place they learn (Rogel, 1951). The best delivery method depends on many variables, including the age or culture of the students, their background and motivation, the subject, the theme, the teacher and learning environment (Kolås and Staupe, 2004). The researcher opined that the selection of delivery method is very important as the method selected will directly impact learner satisfaction and compliance, and instructor comfort.

2.1.4 Content

There is no universally accepted definition of content. Despites of that, there are several definitions suggested by Allen (2013) according its context. In information-based definition, content is all the information, such as facts, concepts, and procedures to be learned. On the other hand, content in term of media-based can be defined as all the text, graphics, videos and other multimedia components of an instructional application. Ehlers and Pawlowski (2006) states that "E-Learning contents in general consist of interlinked resources, which are a multimedia representation of the content...". Normally, the content for e-Learning is in the electronic form and is stored either in CD ROM's or on servers and these contents

can be access directly from stand-alone computers or from the servers through the networked computers (Anuwar Ali, 2004). The content of an e-Learning course should be comprehensive, authentic, and researched MacDonald & Thompson, 2005).

2.1.5 Interaction

Interactions are one of the most frequently discussed topics and a critical concern among distance educators (Saba, 2000). According to Shale and Garrison (1990), interactions between learners in online programs are vital to their success. Many e-Learning researcher s have concluded that social interaction play a major part in increasing the total interaction of an online course, and can enhance and further learning (Mason and Rennie, 2006). A number of studies have examined interaction in online education and have by and large reported that interaction is important for learner satisfaction and success (Wilson, 2008).

2.1.6 System Operation

Stuart (2007) defined operation system as a set of one or more programs which provides a set of services that interface applications to computer hardware and which allocates and manages resources shared among multiple processes interface. In order to create an excellent and acceptability of E-Learning, it is important to state that the technology and the E-Learning system must be well-maintained and always up-to-date from time to time (Folorunso, Ogunseye & Sharma, 2006; Poon, Low & Yong, 2004; Selim, 2005).

2.2 Related studies on E-Learning Satisfaction

Arbaugh (2000) in his finding, identify one of the factor that effect learners' satisfaction is perceived ease of use. Another study on "Student Satisfaction with Online Learning: Lesson from Organizational Behaviour" by Sinclaire (June 20) summarize that student satisfaction with online learning is linked to interaction and communication.

Table 2.2.1 Related reference about the critical factors
that affect learners' satisfaction

Authors(s)	Factors
Arbough (2000)	Perceived usefulness and perceived ease of use, flexibility of e-Learning, interaction with class participants, student usage, and gender
Piccoli et al. (2001)	Maturity, motivation, technology comfort, technology attitudes, computer anxiety, and epistemic beliefs, technology control, technology attitudes, teaching styles, self-efficacy, availability, objectivist and constructivist, quality, reliability, and availability, pace, sequence, control, factual knowledge, procedural knowledge, conceptual knowledge, timing, frequency, and quality
Strokes (2001)	Students' temperaments (guardian, idealist, artisan, and rational)
Arbough (2002)	Perceived flexibility of the medium, perceived usefulness and perceived ease of use, media variety, prior instructor experience, virtual immediacy behaviours, and interaction
Arbough and Duray (2002)	Perceived usefulness and perceived ease of use, perceived flexibility
Hong (2002)	Gender, age, scholastic aptitude, learning style, and initial computer skills, interaction with instructor, interaction with fellow students, course activities, discussion sessions, and time spend, scheduled discussions, team work, acquaintance with the

	instructors
Thurmond et al. (2002)	Computer skills, courses taken, initial knowledge about e-Learning technology, live from the main campus of the institution, age, receive comments in a timely manner, offer various assessment methods, time to spend,
Kanuka and Nocente (2003)	Motivating aims, cognitive modes, and interpersonal behaviors

Sun, P.-C., Tsai, R. J., Finger, G., Chen Y. & Yeh, D. (2006) in their finding found out that learners' satisfaction is significantly influenced by learner perceived ease of use of the e-Learning system. The study used SPSS to analyze the data. Based on the result obtained, the reliability of perceived ease of use equivalent to 0.90, which supported the hypothesis.

Mohammad Maqusi, Abdullah Al-Salamah, and Taleb Sarie (2010) in their study also include the ease of access and use as the evaluation criteria for measuring user satisfaction at Arab Open University (AOU). Using online survey form, the result demonstrated that easy of system access and navigation are ranked highest, at 3.4 out of 5 by students.

Afzaal Ali and Israr Ahmad (2011) reported that course evaluation is among of the key factors for determining students' satisfaction. Approximately, 82% of the students agreed that courses materials were relevant and useful. In another question, about 81% of the students agreed that the assignments were relevant and useful.

Hisham, Campton, and FlitzGerald (2004) in their study, concluded that there are relation between each of the factors (content, learner interface, personalised feedback, learning community and access) and the criterion of students' satisfaction with asynchronous e-Learning systems.

Lo, Ramayah and Hong (2011) demonstrate that delivery method, content, system and interaction are positively related to user's satisfaction in e-Learning.

Using a survey method, 322 out of 500 questionnaires returned back. The intercorrelations among the subscales obtained using Pearson correlation to determine whether the subscales were independent measures of the same concept. The intercorrelations among the four dimensions of satisfaction components and E-Learning satisfaction ranged from .29 to .50 (p < .01), thus they conclude that the result provided acceptable level of correlation.

2.3 U-Learn E-Learning System in UTeM

Figure 2.3.1 U-Learn e-Learning System

The figure above showed the home page for UTeM e-Learning portal. For first time login, user is required to key in user's matrix number and password for validation. The home page provides UTeM general announcement and also useful links such as Library UTeM and also MyLine.

Figure 2.3.2 User's course list enrolled

After the user key in the matrix number and password, user will be directed to the user's course list. From here, user can view the list of courses offered by the faculty and also the list of courses that has been enrolled by the student. This page also provides the option to enrol new courses.
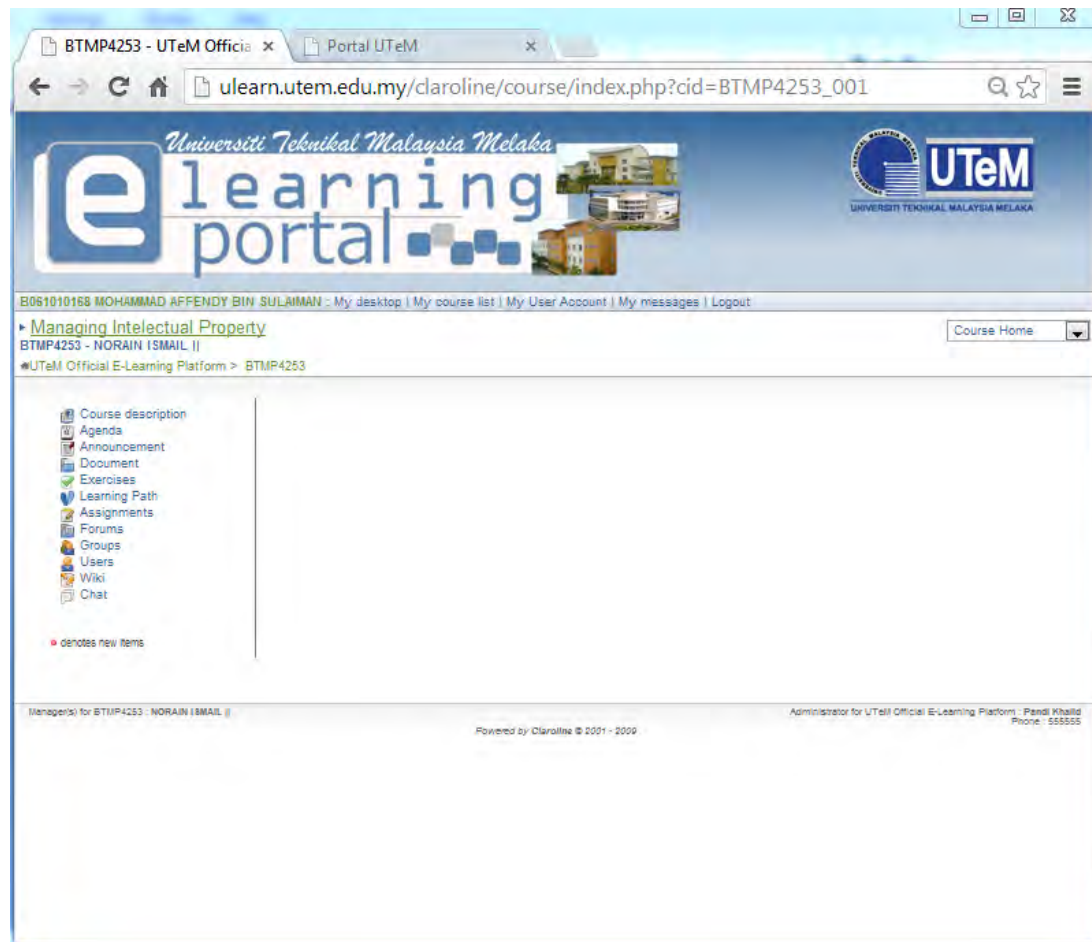
Figure 2.3.3 Course page

The figure above shows the page of the courses enrolled by the user. The page provides the description of the course, the latest announcement, exercises and assignments. The page also provides group discussion and forums for interaction between peers and also lecturer.

2.4 Summary

This chapter discussed the definition of terms used in this study and other related studies on e-Learning satisfaction. The applications of U-Learn e-Learning System in UTeM as a supplementary tool also were discussed in this chapter.