INVESTIGATING UNIVERSITY STUDENTS' INTENTION TO USE LEARNING MANAGEMENT SYSTEMS IN NORTH CYPRUS UNIVERSITIES

A THESIS SUBMITTED TO THE GRADUATE SCHOOL OF APPLIED SCIENCES

OF

NEAR EAST UNIVERSITY

BY

MANAR ALMABROUK ALSGHAIER

In Partial Fulfilment of the Requirements for the Degree of Master of Science

in

Computer Information Systems

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work

Name:

Signature:

Date:

To my family…

ACKNOWLEDGEMENTS

ABSTRACT

Today's students grow up with a wide use of the Internet resources coupled with various digital gadgets. However, this scenario has altered a change in behavior from the past set of generations. To this effect it becomes an important factor for the handlers of educational practice and also the designers to observe these differences and to design educational materials that are suitable for the patterns of learning, their characteristics, and behaviours. This research involves designing a research model adopted from TAM, UTAUT and DOI models. The construct of the various models made up the designed questionnaire which was distributed to 700 respondents across six universities in North Cyprus. The adopted questionnaires were then analyzed with the aim of investigating the readiness, willingness and intentions of the students to use learning management systems. The statistical results proved that student's behavioural intentions related to the factors which include ease of use, usefulness, performance expectancy, effort expectancy, university support, and user satisfaction. The result also showed no correlations with quality of services as suggested in the hypothesis. The study was important in gaining insights into how much the students in North Cyprus universities are interested in using learning management systems, and how they perceived its value in their academic activities.

Keyword: DOI; learning management system; North Cyprus; TAM; UTAUT

OZET

İnternet ve dijital cihazlar günümüzde öğrenciler tarafından sıklıkla kullanılmaktadır. Bu nedenle, bu öğrencilerin davranışları önceki jenerasyonlarla farklılık göstermektedir. Bu bağlamda, eğitimcilerin ve eğitim tasarımcılarının bu farklılıkları bilmesi ve eğitim materyallerini öğrenme şekli, özellikleri ve davranışlara uygun bir şekilde tasarlaması önemlidir.

Bu çalışmada, Kuzey Kıbrıs'ta yer alan beş üniversite dâhilindeki 700 kişiye dağıtılarak önceden yürütülen bir araştırma kapsamında uygulanan anket ve araştırma deseni kullanılmıştır. Anketler, öğrencilerin e-öğrenme yönetim sistemine ilişkin isteklilik ve amaçlarını araştırmak için analiz edilmiştir. İstatistiksel sonuçlar öğrenci davranışlarının kullanım kolaylığı, kullanışlılık, performans, beklenti, çaba, üniversite desteği ve kullanıcı memnuniyeti gibi faktörlerle ilintili olduğunu göstermiştir. Hipotezde öne sürülen şekilde sonuçlar ve hizmet kalitesi arasında bir korelasyon bulunmamaktadır.

Çalışma, Kuzey Kıbrıs'taki üniversitelerde okuyan öğrencilerin öğrenme yönetim sistemlerinin kullanımına duydukları ilgi ve bunu nasıl algıladıklarına dair bilgi edinmek açısından önemlidir.

Anahtar kelimeler: Birleştirilmiş Teknoloji Kabul ve Kullanım Modeli (UTAUT); Kuzey Kıbrıs, Öğrenme Yönetim Sistemi; Teknoloji Kabul Modeli (TAM); Yeniliklerin Yaygınlaşması (DOI)

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LIST OF ABBREVIATIONS

LMS: Learning Management System

ICT: İnformation and Communication Technology

IT: İnformation Technology

TAM: Technology Acceptance Model

UTAUT: The Unified Theory of Acceptance and Use of Technology

DOI: Diffusion of Innovation

COI: Community of Inquiry

CMS: Content Management Systems

SCORM: Shareable Content Object Reference Model

VLE: Virtual Learning Environment

QOS: Quality of Service

SR: Student Readiness

UF: Usefulness

US: User Satisfaction

BI: Behavioural Intention

PI: Performance Expectancy

EE: Effort expectancy

EOU: Ease of Use

CHAPTER 1
INTRODUCTION

This section contains a general overview relating to this study area, the statement of the problem, the major aim, the research supposition, and the limitations. The section also contains a short description of the chapters as written in the research.

1.1 Background

So many researches have been conducted on factors that affect one's intentions to use learning management systems (LMS). This is inevitable due to the rapid increase in innovations in the world of information technology. Although these new technological innovations are said to make teaching and learning easier, it is as though a vast popularity of students do not use them.

Learning Management System is defined as a strategic process where web technology is used to organize, plot, effect, and regulate the various aspects of the learning process. It also comprises an organization of classroom tools or actions to be shared easily (Chipps et al., 2015). By this definition, learning management system is also seen as a platform that allows for interaction outside the classroom. Learning Management System is a complete representation of the change that has taken place in the educational sector, although a common problem is that many researchers view it as a replacement of the traditional learning setting that could lead to extinction of aging specialisation, interests and past experiences gathered from traditional learning (Corlett et al., 2005). With all that, learning management has found its grounds in this technological era.

Ahmad et al., (2013) highlighted that in recent studies there were reasonable metrics to predict acceptance of learning management systems and the foreseeable success that can be recorded among younger students who just got into the institution, as compared to the older ones. Their major suggestions are that students who grew up getting used to computers and other computer affiliated technologies are more likely to adopt the use of learning management systems with much confidence.

1.2 Problem Statement

Advancements in Learning Management Systems has rapidly increased over the last years and this has fascinated the curiosity of many academics and researchers, mostly because the technology

has brought value to teaching and other educational practices in general. Learning Management Systems provides the opportunity for students to enter their information from different locations worldwide, without geographical restrictions. The only restriction would, therefore, be the availability of internet connection (Ghazizadeh et al., 2012). Many factors are located in the literature to affect student's plan to use learning management systems. However, there is a gap in the researches that could contribute to clearly infer the students' intention to use LMSs.

1.3 Aim of Study

The aim of the research is to study and investigate the factors influencing student's decision to use Learning Management Systems in North Cyprus Universities, so as to develop a enable valuable decisions toward implementing a sustainable and life-long Learning Management Systems. This can be achieved by discovering the level of students' acceptance of Learning Management Systems and similar technologies. Other objectives include:

- To find out the causes of and explain the reasons why students perceived Learning Management Systems as an educational tool
- To find out the motives influencing student's acceptance of learning management systems in universities
- To find out the key problems that could hinder the success factors of ensuring a successful development and usage of learning management systems
- In essence, the research will scientifically investigate the intention of students from university to adopt a LMS, and the factors that could influence their decision as well as the necessary considerations made by the students before embracing LMSs.

In the course of achieving these aim and objectives, followed suit some proposed hypotheses:

H1: A positive relationship exists on LMS usage in between students' readiness and intentional behaviour

H2: A positive relation exist on LMS usage in between performance expectancy and intentional behaviour.

H3: A positive relation exist on LMS usage with university support and intentional behaviour

H4: A positive relation exist on LMS usage between effort expectancy and intentional behaviour

H5: A positive relation exist on LMS usage with quality of service and intentional behaviour

H6: A positive relation exist on LMS usage in between ease of use and intentional behaviour

H7: A positive relation exist on LMS usage between usefulness and intentional behaviour

H8: A positive relation exist on LMS usage between user satisfaction and intentional behaviour

1.4 Study Limitations

This study experienced some limitations during its course and these limitations include lack of cooperation from the research community; failure of some to respond and duly answer the questions in the questionnaire. Another constraint was a time constraint, as data collection was conducted on a limited time and quite strenuous as the researcher had to collect data from all the six universities. In the case of the Research participants: The data collection was also restricted to university students. The researcher wished that the data collection would have included faculty members, university administrations etc. It might as well be viewed as a limitation; the fact that the study focused mainly on the data collected from only six universities in North Cyprus, and a questionnaire system was adopted during collecting data, which was done based on the honest responses of the participants.

1.5 Importance of the Research

There have been series of researches by different researchers in different areas aiming to discover the level of intents in students to use learning technologies, apparently a huge number of these researches have concentrated on the adoption of UTAUT or the TAM, but this research makes use of a hybrid model developed by the researcher. Researchers with interest in this subject matter will find the result of this study beneficial specifically for those who are troubled with embracing and developing the services of the learning management provided by the universities. Academicians responsible for designing school courses will find the result of this study beneficial. Further importance to developers and education providers are given below by the researcher.

- Developers: IT maintenance staff, as well as administrators, will now know the limitations and challenges that students faced with regards to the usage of learning management system platforms and this data are vital in executing educational support systems.
- Education providers: Students will now know the profits that they would obtain from the use of this technology, as well as make suggestions for improvements, with respect to their expectations.

1.6 Overview of the Thesis

The study consists of six chapters, the chapter contents are as explained below:

Chapter one: the first chapter consist of a brief contextual know-how of the subject under study, problem statement, the aim and objectives of the thesis, the experienced limitations of the research as well as the thesis overview.

Chapter two: this section entails literature of research that is related to the study, detail explanation of LMS models as well as previous studies on the benefits of LMS.

Chapter three: this section talks about the theoretical framework as regards approval and effective use of the learning management systems

Chapter four: this chapter explains the model that was designed and used for the research in the course of the data analysis; it also shows the research participants the data collection tools and other details for the survey analysis.

Chapter five: in this chapter, the result of the study is shown with the description and explanation

Chapter six: in this chapter, the summary of the thesis is given as well as a concrete discussion of the results, the chapter also entails the conclusion and the recommendation for future research.

CHAPTER 2
LITERATURE REVIEW

This section entails literature of research that is related to the study, detail explanation of LMS models as well as previous studies on the benefits of LMS are provided.

So many researches had been conducted by various academics, and while the aim of most of the existing researches was on the benefits drived by use of the learning management systems, this research provides description on students' intention to use Learning Management Systems in North Cyprus. Specifically, the intentions of using the learning management system for course-related activities, discussions as well as learning tasks. The learning management systems are now being widely used by academic institutions all around the world. As such it is possible that students who use the learning management systems would have better perception toward the use of the systems to advance their studies

In a research by Judge et al., (2017) it was indicated that students always show interest in the usage of LMSs owing to the fact that it was a new concept that supplement the traditional learning settings. They provide on the home page of their institution's website a hot links that link to Wiki pages. This enabled the students to have less stress in obtaining materials for their courses. On each of the links the instructors were able to individualize and create activities, readings, this means that there was not only learning materials but also enabling discussions, and assignments.

Similarly, students might be happy to use learning management systems because it is closer to the common platforms they use for social activities. Thus, LMS is a form of easy learning strategy, as such the ease of use of the system might be a key priority to students (Siew and Wee, 2016).

2.1 Evolution of Learning Management Systems

The key thought on which the utilization of learning management systems frameworks is established endeavours to alter instructing and learning exercises to the necessities of a student (Mafuna and Wadesngo, 2012). This has been named as individualization which is a procedure whereby diverse learning stages have been more centred on the exchange of regular courses and modules to the virtual learning condition. In the 1980s, the progressions that being knowledgeable about learning technologies were focusing more on the utilization of independent PCs for content

advancement. From 1995 up to 2000 (the era of system innovative headways), new courses, for instance, instructive management, course conveyance and joint exertion advances were extended. This was also encouraged by the ascent of the Internet and World Wide Web which accordingly, offered life to the propelled learning management frameworks. Because of the expanded access to remote innovations and versatile gadgets from 2000 and up to now, there are no more issues with separate, as far as conveying training. Nowadays, mechanical devices for unique joint exertion are set up to encourage the learning procedure in a virtual situation (Venkatesh et al., 2003).

The passage of learning management systems has not been grasped to a similar degree at various levels of instructional frameworks. The tertiary training is further developed by using ICT gadgets in instruction when contrasted with different frameworks. Standard colleges and other higher learning establishments are outfitting themselves with modern learning frameworks to give a common mechanized learning stage for course conveyance and management. Others incorporate the component of virtual space stockpiling for keeping powerful correspondence and capacity to share instructive assets among the scholarly gathering. Today, the plans, arrangements and ventures of higher learning foundations have perceived learning management systems as an imminent technique to change information and capacities and increment execution and nature of instruction (Hong et al., 2003). From a college administrative point of view, learning management system gives an open way to instructive business advancement and quality change in learning and educational exercises.

In any case, the execution and utilization of learning management system frameworks are still not spread in a few sections of the world. This is purposely to ground that learning management system is a mind-boggling idea that includes the far-reaching thought of individual, definitive and foundational changes. It worth noting that, creating this scenario of learning management systems, as a rule, will thrive accomplishments to basic and tertiary stages of the existing traditional learning approaches. A few takes-up are perceptible and a few wonderful changes in some tertiary training frameworks with respect to instruction conveyance and the related help process are very undeniable. Be that as it may, for different colleges, the level of the mechanical framework has not permitted the perfect take-up of new inventive learning management stages (Al Busaidi, 2012).

Moreover, different reasons have prompted disappointment in coordinating advanced learning management systems. Among them, the nonattendance of prepared college scholastic staff in the

utilization of technology and facilitated exertion in virtual learning condition, educators' demeanours and nonappearance of goals to utilize technology, student's low aptitudes in basic ICT capacities, students' desires and states of mind to utilize learning management systems and the existence of vital plans and approaches for executing learning management systems are for the most part identified. For a few nations, the crucial ICT framework and human limits are still rare and those are grave confinements that prompt disappointment in some learning management ventures. Close by those necessities, a few colleges are missing sound judgment rules and strategies to encourage the improvement of favourable educational conditions (Park, 2009).

As stated earlier, the take-up of imaginative advancements isn't on a comparable level far and wide. In the higher education division, there are different business-driven devices for learning management, for example, Web Ct and Blackboard while others depend on systems that are open source learning management systems, such as Moodle, and Sakai among others (Eom, 2012).. The usage of open source systems is an imperative idea, especially in higher education in developing countries. The explanations behind this are customizable LMS with less cost and without a licience, the value is questionnable in this specific circumstance. In this circumstance, the nature of learning, using these open source systems, remains equally dangerous in a few instances. Because of the deficient customization of these systems and need direction, educators and learners neglect to utilize reasonably these learning management systems (Stair & Reynolds, 2012).

Concerning activities of learning management systems in developing countries, this advancement is still in its earliest stages organized when contrasted within developing countries. With an enthusiasm to coordinate learning management systems in conventional strategies for teaching, developing countries' education systems attempt to acquire best practices. Be that as it might, this has not prevailed in a few countries in light of the way that the need to alter the acquired systems to the neighbourhood settings is until now troublesome. In Africa especially, the reconciliation and usage of teaching management systems are as yet huge difficulties in spite of the open entryways gave by the open source developments and the measures of interests in the higher education fields for some of the countries (Park, 2009).

2.2 Collaboration in Learning Management Systems

Collaborative learning can be depicted as an educational technique to manage learning and teaching by incoporating social activities with whatever is left of the scholarlastic materials. This

can be considered as a social movement where individuals are called to interface either in a close or in a remote mode. In this way, learning happens when individuals impart on or inspire one another (Porter & Millar, 1985).

In a successful Learning Management System, some researchers suggested adapting a composite method of learning. That tends to be evidently inescapable when resourceful technologies are fused with human facilitators. The collaboration in an online state should always have an alternative setting set apart and a divided classroom condition. As characterised by a couple of pros in the past researches, objectivity in partitioned learning grasped by the affiliation chooses the kind of collaboration of individuals or organized social activities in the online condition. In this framework, information is created and shared in an instinctive system either between students themselves or instructors. From the constructivism viewpoint, information is created by students through a social collaboration in gathering focused learning. The constructivist speculation supports fundamentally the layout and change of communitarian online learning condition and the instructive advancement as a whole considered (All, Nuñez Castellar, & Van Looy, 2015).

In social order web learning process, the understudy works together in like manner with the interface and substance in light of the way that the learning materials and nature are made open to the before the understudy starts associating with them (Mafuna and Wadesango, 2012). In the helpful learning condition, the bit of an instructor is obliged, whereby instead of being an educator, he/she changes into a facilitator. In like way, in a communitarian learning setting, students have the opportunity to interface with peers and to exchange diverse sentiments in a capable engagement and open condition. In an online-enabled condition, learning is effectively shared among customers more than in physical setting. This straightforward access to electronic resources influences single execution. With an advance in ICTs, instructors and understudies are offered such an open gathering focused learning opportunity, which energizes the correspondence in a virtual learning condition. This headway is known as the online learning management framework (Balasubramanian, Jaykumar, & Fukey, 2014).

Henceforth, students can speak with their associates or with educators when the level of connection is in actuality made strides. In the hypothesis course process, one could likewise contend that ICTs can give a collective circumstance through discourses between the academic gathering and industry or relationship outside of the insightful world, who would interface be able to use

specialized instruments coordinated in the learning stage that help theory process. For a theory supervision stance, this is considered as a creative route for supporting dynamic talk whenever from better places (Almarashde et al., 2010).

2.3 Learning Management System (LMS)

LMS is seen particularly among different viewpoints and besides, as a respectable new thought, it is consistently confused for other similar thoughts, for instance, Learning Management Systems, propelled learning, virtual learning and division learning and so on. Since these thoughts address exhibit day achievements in the training technique, for the explanations behind this paper the term LMS will be used in like manner. As a fundamental stage to enable feasible learning to condition, an LMS is portrayed as a framework which uses an extent of ICTs to deal on an online stage over the web, where a course can be masterminded, empowered and administered by both the instructor and the understudy. Likewise, they are portrayed as electronic devices used to direct, realize and measure online learning and preparing. Instances of which are requested into prohibitive frameworks, for instance, Blackboard, WebCT, Desire2Learn, Angel and so on and open source frameworks, for instance, Sakai, Moodle, OLAT and so forth. The vast majority of the functionalities gave by these frameworks tend to drive understudies, enhance their adequacy and cost-hold stores and particularly, tend to enliven their learning outlines (Eom, 2012).

Learning Management System is a wide term that is used to delineate computer-aided learning platform. A broad assortment of phrasings has existed for Learning Management Systems previously, making it troublesome to have a unique and generic definition. For the most part used positions to the joining of Learning Management Systems, web learning, intstructive learning, Web-based learning, and collaborative learning. These terms surmise that the understudy or student is at a physical detachment from the guide or educator. The learner uses distinctive sorts of progression to get to the learning materials, utilizing the framework to team up with the tutor or instructor and diverse students, and that some sort of assistance is given to students. There are various implications of electronic learning in creating, the definitions that reflect assorted practices and progressions related to it. Some researchers portrays electronic learning as instructive material that is shown on a PC has a more ordered definition, delineates it as an imaginative approach for passing on rule to a remote social occasion of individuals, utilizing the Web as the medium However, online learning incorporates something past the introduction and transport of the

materials however the web: the understudy and the learning system ought to be the motivation behind joining of Learning Management Systems. Thus, a suited importance of Learning Management Systems is 'the utilization of the web to get to learning materials. To speak with the platform, instructor, and distinctive students and to get collective support amidst the learning method, keeping as an essential concern the end target to get information, to produce particular criticalness, and to create from the learning. LMS is a term used to depict web-based advancement, intended to design, actualize, and survey a detailed learning method. LMS likewise more ordinarily allude as easy-learning stages, utilized as a medium of learning users' input to the web. Commonly, a learning management system gives an educator a technique to make and convey content, screen understudy investment, and survey understudy execution. As indicated by Brandon Hall, an LMS can be described as a system that carries out its activities automatically. However, most LMS keep track to the user activities in an automated fashion.

2.3.1 Characteristics of learning management systems

Notwithstanding, student's attributes and social impacts, the quality of the system with data have a critical influence on client's fulfilment of LMS. System potentials are the attributes of the system in question, and they could be rated as time of reaction, unwavering quality, versatility, simplicity of usage, and clear entry, efficient outline and personalisation (Ozkan and Koseler, 2009). Information quality is characterized by the student's apparent yield delivered by the system. Information abilities comprises timetables adopted in schools, indicating resources, and discourse gatherings, which all must be legitimately arranged to guarantee client fulfilment (Sun et al., 2008). As indicated by past examinations, learners lean toward content that isn't simply breakthrough yet moreover efficient, doubtlessly exhibited, intuitive and helpful. For instance, essential declarations that are carried out in due time empower makes learners to have more satisfaction with available course content, which achieves higher fulfilment rates. Past research likewise proposes that help to learners get is a noteworthy marker for Learning Management Systems acceptance. As per this, (Park, 2009) proposes that great preparing to students in the usage of LMS is fundamental, in any event since great organization quality empowers learners to comprehend the system. Some different investigators have contended that learning management systems regularly neglect to create the ordinary outcomes. This is because of LMS flawed usage, their hindering effect on joint effort and that use regularly concentrate more on the requirements of the establishment and courses rather than the understudy. Their exploration proposes that in order to deal with this multipart of

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issues, the LMS has necessities to open up for blend and bolster different systems. This implies the system quality of LMS ought to be enhanced to have the ability to convey wanted outcomes

Clearly, it is evident from past researches that the behavior of the students essentially affect Learning Management Systems acknowledgement. Factors, for example, student's PC uneasiness, technology involvement, and individual ingenuity to utilize new advancements have a huge consequence on the student's recognition in regards to LMS usage. As the student feels great with PCs usage and has mechanical involvement it ends up clearly less demanding for the client to acknowledge an LMS. Regardless, investigate also demonstrates that the nervousness of using Learning Management Systems advancements can prevent the student's fulfilment. This implies learners require support to fabricate confide in using PCs and LMS in Learning Management Systems presumes that the more technology encounters an understudy has, the simpler it is for the understudy to use IT in education. At the end of the day, long-haul utilization of IT influences an understudy's view of considering IT to be a valuable apparatus.

2.3.2 Learning Management Systems and the social interaction
According to Han et al., (2016), specifically, educators' demeanour near the LMS coupled with control over LMS are basic elements influencing learners' apparent convenience, and furthermore the genuine usage of the system. As per a few discoveries, educators that are less energetic or have a negative perspective of Learning Management Systems are presumably gone to reduce student's fulfilment and motivation. This recommends educational establishments need to guarantee that educators are completely going to play a part with respect to the usage of LMS (Hwang and Wu 2014). This hypothesis reaches out from the above contemplations and adds the party to the unique circumstance. The contemplation is that a gathering fabricates things for each other, cooperatively making a little circumstance or culture of imparted knick-knacks to related ramifications. Right when there is an individualistic space like this, the person is consistently gaining knowledge on how to be a piece of the lifestyle on numerous levels, generally helping each other to learn. Researchers express, that all data, together with the most fundamental, taken-for-granted sound judgment learning of regular the fact of the matter, is gotten from and kept up by social connections. An extremely clear outline is a protest like a glass. It can be utilized for some things, yet its shape suggests some 'learning' about conveying liquids. A more mind-boggling illustration is an online course. Not exclusively do the 'shapes' of the production tools demonstrate some

requirements of online courses operations, however, the exercises and messages delivered inside the gathering all in all will help shape how every individual act inside that gathering.

2.3.3 Learning Management System qualities

Notwithstanding student's features and social effects, system value and information value have a huge effect on client's fulfilment of LMS. System abilities forms the system attributes which could be rated as time of reaction, unwavering quality, flexibility, convenience, and clear entry, efficient arrangement and personalization (Ozkan and Koseler, 2009). Information quality is characterized by the student's apparent yield created by the system. Data potentials comprise of school timetables, indicating materials, and exchange discourses, which all must be appropriately arranged to guarantee client fulfilment (Sun et al., 2008).

As per Ozkan and Koseler (2009), apprentices lean toward resources that isn't simply best in class yet also efficient, clearly displayed, intelligent and valuable. For instance, fundamental declarations which are executed in due time could empower students feelings in a positive manner with content of the course, which achieves sophisticated fulfilment rates.
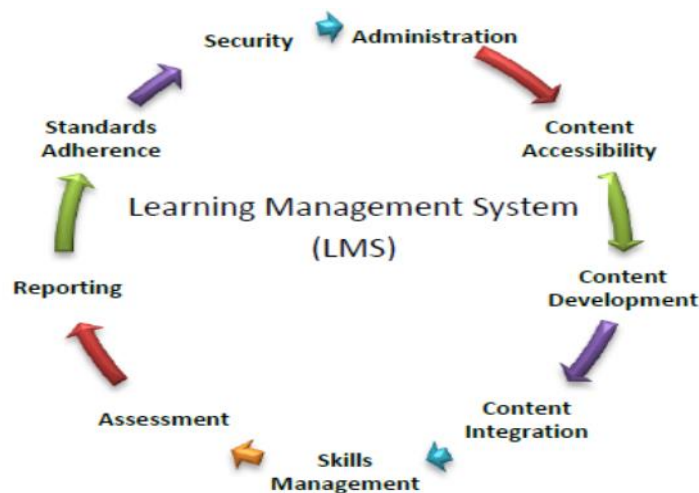
Figure 2.1: Distribution of the functional elements of LMS (Govindasamy, 2002)

Past research moreover recommends that help to learners get is a basic marker for acceptance of Learning Management Systems. As per this, a few specialists recommend that great preparing to scholars in the use of LMS is essential, at any rate since great organization quality empowers learners to comprehend the system (Selim, 2007).

2.4 User Acceptance Models

Like some other part, the higher education has grasped the ability of imaginative advancements to improve the path toward learning and training. Be that as it may, accomplishment or frustrations of knickknacks are seen in instructive improvements (Ayub et al., 2010). The use of a particular technology depends upon whether it builds the estimation of the present strategy. Subsequently, the level of technology compromise in the traditional learning process depends upon how much individuals get and use the open Learning Management Systems stages in their foundations. This examination deals with the use of a creative stage in a social setting to upgrade the proposal strategy, which is considered as a learning development. The level of affirmation and use of technology depends on a very basic level on the level of behavioural goal imparted by individuals since they are familiar with a particular technology. In the scholastic condition, without the scholarly social event's affirmation and impression of essential worth development, learning management frameworks may not pass on whatever regard it is prepared for by its functionalities. The inspirations of students and distinctive accomplices in the instructive division to recognize and use learning management frameworks can be surveyed and controlled by the utilization of various models, structures and speculations. The composition of the customer affirmation of information frameworks perceives distinctive technology affirmation models and structures for factors influencing customer assignment. The trio as regularly as conceivable alluded to models in the written work and they includes TAM, UTAUT and the concept of Distribution of Innovation (Venkatesh et al., 2003).

According to the research by Venkatesh et al., (2003) the term Ease of Use can be seen as a vital segment affecting the customer affirmation as they affect the customer's perspective towards the framework. He described obvious supportiveness as "how much a man assumes that using a particular framework would enhance his or her action execution" and considered comfort to be "how much a man assumes that using a certain framework may be free from struggle. In 2000, Venkatesh extended the principal TAM model to clear up obvious accommodation and utilize

desires the extent that social effect process and subjective instrumental systems. The extended model is implied as TAM2 (Venkatesh 2000).

In TAM2 the social effect process includes the impact of three between related social forces interrupting on an individual defying the chance to grasp or reject another framework; Subjective standard, described as a "man's acknowledgement that a considerable number of individuals who are peers to him have figured out the opinion of usage or none usage of new technology being provided with". Self-suggestion and Appearance factor for customer affirmation.

In the subjective influential process, the TAM includes the entity's activity congruity and yield quality. Effects conspicuousness and saw accommodation are other focal determiners of customer affirmation. In 2003, Venkatesh evaluated the similarities and the refinements of eight recognizable technology customer affirmation models. With the aftereffects of this examination, they characterized the Unified Theory of Acceptance and Use of Technology (UTAUT) in light of the connected and observational parallels transversely finished models. The eight models studied are speculation of thought about development, the technology affirmation shows up, the motivational ideal, the scheme of masterminded lead, a model conjoining the technology affirmation appear and the theory of organized direct, the model of PC utilization, the advancement scattering theory, and the common scholarly speculation. The UTAUT speculation displayed by Venkatesh et al., (2003) states that four structures accept an essential part as quick determinants of customer affirmation and utilize lead. They are execution trust, effort doubt, social impact, and empowering conditions. The execution issues are disclosed as the amount of trust an individual has on a framework and this will guide him in the exercise towards accomplishment. On the other hand, there is a level at which the individual trust the various stages, and this is known as the empowering conditions. Scattering of Innovation structure circulated by previous researcher's states that an improvement was considered as an inquiry with five saw characteristics: relative favoured viewpoint, closeness, eccentrics, trainability and detectable quality. These points help one to clear up it's gathering. The arrangement audit and relating factors to Learning Management Systems task prescribes that all components could be circled around three key components: individual, framework and legitimate. Examination of these features recommends that every key factor could be additionally encompassed around subfactor assemblages. The subfactors under the single factor are specific appearances and individual acknowledgement. The individual qualities

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included in the composed work are the capacities and information anticipated that would make and pass on online courses.

The edges of individual acknowledgement are the impact of accomplices, the framework related to the idea of close instructing, the framework hugeness to close educating and the impacts of school philosophy for Learning Management Systems headways. The sub aspects under the framework factor are LMS features and outside framework qualities. The LMS characteristics recognized are the openness of fitting functionalities, adaptability and substance setup instruments of the LMS, its supportiveness and its usability. The external framework features are: the openness and most extreme of ICT structure, steady nature of ICT foundation and disposal of other definitive frameworks, for instance, online enrolment, isolate library associations, evacuate understudy support associations, online assessment and a secured medium to display understudy comes to fruition on supplement the movement of online classes. The subsisting factor for the legitimate factor is a various levelled help and definitive characteristics. The definitive help factors are: getting ready and support to outline and pass on online substance, staff time rewards, impelling powers and compensating parts, ICT planning and helpdesk reinforce. The legitimate appearances factors perceived are; the prerequisite for workforce wide Learning Management Systems method, alliance culture headed for Learning Management Systems, established activity and affiliation wide strategy and financing requirement for Learning Management Systems progression. The examination reviewed the created data technology customer affirmation models to perceive their suitability to get in the examination. An entire of this examination was the created models had parts that are material to Learning Management Systems user affirmation, none of the models involves all factors - individual, framework and various levelled that have been recognized for Learning Management Systems framework affirmation.

This examination henceforth did not consider utilizing the set up IT customer affirmation models; rather the examination built up another headed together structure for Learning Management Systems customer affirmation, merging the factors that are particularly colossal for Learning Management Systems and besides the reasonable data frameworks customer affirmation segments from disseminated technology affirmation models, for instance, the factors from each of the adopted models were consolidated into every one of the three-factor assemblages of the projected Learning Management Systems structure. The shared impact edge from TAM, specific perception,

is fused into the individual factor get-together of the framework. The client view of system attributes, simplicity of usage and the handiness of the system from TAM, are incorporated into the system factor gathering. The encouraging conditions from UTAUT, hierarchical help factors, for example, staff preparing and time rousing forces are incorporated into the authoritative factor alliances.

2.5 A Virtual Learning Environment (VLE)

VLE can be described as an array of tools used for teaching and learning and in this case, they are designed to boost students experience in learning by uniting computers and the Internet on a singular learning process. It is suggested that VLEs should possess some collective tools of learning (Govindasamy, 2002).

Revealing, joint exertion, conferencing, content structure, and furthermore individual advantage gadgets with a specific end goal to totally fulfil the Learners' instructive requirements. Nowadays the VLEs are fundamentally used to supplement the standard learning and traditional learning with ICT components, ordinarily known as crossbreed (mixed) learning (Park, 2009).

A typical VLE includes these components: managerial data, course syllabus and subtle elements, see the board, understudy enrolment, showing material, perusing material and associations with electronic libraries over the Internet, self-evaluation tests and tests, correspondence and composed exertion, and improved substance making mechanical assemblies. Over the past 10 years colleges and higher scholastic foundations intertwining the colleges in Cyprus have instantly received VLEs because of the few advantages that they offer, for instance, hacking down the time spent for setting up the clients particularly on the off chance that they have a place with the affiliation or research divisions. Besides, VLEs improve the reconciliation of regular and separation learning on the grounds that the lion's offer of them are SCORM-pleasing and the way toward exchanging, pushing, and checking courses is institutionalized. The VLEs as of now accessible in the Learning Management Systems industry are either business or open-source (Limayem and Cheung, 2011). PCs and Internet advancements keep on being more coordinated inside the expert existence of scholastics and IT specialists essentially in light of the fact that the instructional architects approach an extensive variety of new adaptable and versatile advances. Subsequently, these advancements open portals for a large number of various online courses, online classes, trade talks, and other Learning Management Systems administrations. Understudies or the Learning

Management Systems utilize a few innovation assets for their online course, for instance, VLEs with highlights that assistance synchronous/ non-simultaneous trades, web joint exertion, content composed work/introduction, and individual proficiency instruments (Ozkan and Koseler, 2009).

The web facilitated exertion centres around how the common virtual workspace advances and the web conferencing give organized synchronous and non-simultaneous joint exertion rather than physical eye to eye gatherings. They basically accomplish this target by empowering the varying media cooperation over the Internet and shared electronic workspace particularly to create reports, for instance, reviews and application sharing. The absolute most understood web composed exertion gadgets are blogging, wiki, RSS channel, overviews, social bookmarking, record/application sharing, synergistic white-sheets, communitarian inquire about, and collective identity mapping devices. Shared identity mapping or idea mapping is utilized to make blueprints of the relationship(s) between various ideas, thoughts, or different bits of information; the synergistic identity mapping strategy can enhance learning and study effectiveness in an internet learning condition up to 15% as contrasted and the ordinary note-taking (Park, 2009).

Content creating is utilized to get ready data to be respectable and open to people and gatherings in a wide range of learning conditions. There are numerous undertakings engaged in content composing, for example, content control, dispersion, and introduction. A definitive objective of substance composing is giving a coordinated framework that will fulfil the idea of creator once, distribute excessively numerous stages". The individual efficiency apparatuses inside a learning domain are chiefly utilized for an individual student's close to home working and learning purposes (Patricio et al., 2017).

CHAPTER 3
THEORETICAL FRAMEWORK

İn this chapter the models and the factors that are adopted in the Learning Management Systems systems is discussed.

3.1 Technicalities of Model

There are definitely some factors that stimulate and affect the use of LMS in the countries or places where they have been used previously, this can be studied and observed theoretically in the framework of this study in relations to the influencing factors. Although these assumptions have been based on the use of different models. By adopting a variable from one of the models, for example, the individual's beliefs toward LMS which influences individual's attitude and external variables from the TAM models, a lot of assumptions can be made on the framework of the use of LMS and its acceptance. With regards to the models adopted in this study, we can say that the elements are important in the determination of the level of intent or acceptance by the intending user, the individual elements put together results in the level of the behavioural intention of the student.

3.1.1 Performance Expectancy

Performance expectancy (PE) can be distinguished as the level to which a user of a system expects that use of the system enable him or her to provide a solution or carry out a particular job. (Venkatesh et al., 2003). On a broader note, this means that a person is most likely to adopt a new technology when he or she they believe that that particular technology will help him perform their job very well. (Venkatesh et al., 2003) at a stage that consolation to convey a vocation is showing results, the inspiration to carry out this activity winds up superfluous. These extraneous inspirations could be rewards, for example, compensation, advancement or evaluations. There have been some subjective arguments regarding performance expectations on innovative technology, however some users measures this performances based on the previous technology usage, if there is a positive upgrade they term the new one as a better performing technology vice versa.

3.1.2 Effort expectation

The effort expectation could be term "the degree of ease associated with the use of the system" (Venkatesh et al., 2003). Many times the expectations of a user of a particular technology have the expectations that the technology would be effortless.

Again another expectation of users of the system would be Complexity, this can be interpreted as the difficulty that could be encountered during the use of a system, this could be beneficial to make notes that its perceived by the user.

3.1.3 Usefulness

This alludes to the particular qualities that make an application easy to use which show up on the interface of the application. Portable learning applications ought to be utilized to accomplish palatable results by giving careful consideration to practical and non-useful necessities so as to upgrade ease of use. The UI ought not to be excessively confused to such an extent that it's troublesome, making it impossible to work without preparing, the UI ought to be amicable and simple to utilize. Counting an assistance menu on the initial interface visit guide can likewise be helpful to users that are new to the system. Usability is additionally influenced by different factors, for example, restricted storage, poor screen determination, metric size of the screen view, and nevertheless, ease of use is a measure of more than basic convenience; it alludes to customers' subjective encounters after utilizing an application. Convenience likewise catches more quantifiable perspectives, for example, regardless of whether clients, in utilizing the application, are really ready to achieve what they set out to accomplish. In Learning Management Systems applications, this second perspective is particularly important. It is conceivable to survey how much an individual has learned using an Learning Management Systems application, and this evaluation uncovers data with respect to the viability and proficiency of the application.

An appealing UI will invigorate the enthusiasm of clients. It is critical for learning applications to represents the accompanying highlights in particular; engaging quality, convenience, learnability and client fulfilment. It is essential for engineers to think about the clients when outlining the interface and in-collaborate unique client prerequisites that might be required for instance in-participating some brail capacities to cook for daze understudies. Strong frameworks of high calibre will pick up a more extensive acknowledgement level and consistency on various m-learning stages ought to be kept up (Venkatesh et al., 2003).

3.1.4 Quality of service

One of the most significant definitions of quality of service is the definition which explains the quality of service as a relationship of reliability, response, content quality, and security. But again we can say that the in most cases QoS could be defined to have focused majorly on users perceived satisfaction based on the offered services. Quality of service can also be seen as what a customer assumes that the providers needs to provide or upgrade their current systems positively, better than the current system. Another definition of quality of service is that it is a useful investigation for overall delivered service. Brilliance of administrations which are given to clients could be influential to the level of acknowledgement of new innovation. shown that understudies' impression of online help could be of beneficial quality could pointed as one very significant characteristics influencing their conduct goal towards the acknowledging of LMS (Delon & McLean, 2003),

3.1.5 User satisfaction

Feedback from a user of a particular system is very important to ensure a successful Learning Management Systems implementation. The replies that are received from the survey will assist institutions, and the developers to determine the growth stages of the process, as help them to know the areas that are needed to be improved upon. To boost the intentions of use it is important to understand the intending user expectations from the system, thereby obtaining user satisfaction in the process.

3.1.6 Ease of use

Part of the factors that seems very influential is the simplicity and easy of usage experienced by users or customers, this factor is very influential to the model. Many amongst customers prefers an easy to use systems with a lot of simplicity. Among others, affirmed the similitudes between these ideas.

To users two things strike a chord when the word ease is utilized, they are item and administration. An approach to deciding if an item or administration is simple or convenient relies upon time and exertion. An item or administration is thought to be simple when it spares time for a client. Then again, an item or administration is thought to be simple when it brings down the subjective, passionate and physical weights for a client. Analysts have inspected the simple of an item or administration by five measurements including time, put, procurement, utilize, and execution. Be

that as it may, trusted that simple in getting to innovation isn't identified with the aim to utilize innovation, and simply being used is like usability in TAM. (Venkatesh et al., 2003).

3.1.7 University support

A few investigations show that individual use of developments relies on convictions and recognition as well as on administration systems, strategies and activities. Authoritative facilitators can be viewed as the other side of provider showcasing exercises, characterized in some reception models at the hierarchical level. We allude to hierarchical facilitators, for example, college for this situation, as the inner showcasing and administration endeavours focused on the end-clients of the framework. By definition, hierarchical facilitators are multi-dimensional and comprise of client preparing, specialized client support and usage exertion.

Preparing clients how they can successfully apply IT for particular work issues is a noteworthy essential for its utilization. A few creators have proposed and given confirmation to the way that the level of preparing a client gets, decidedly impacts the convictions about a framework and additionally ensuring utilization conduct (Venkatesh, 2000).

3.1.8 Student readiness

Specialized client bolster has been proposed as a vital facilitator for client demeanours and ensuing acknowledgement. The authoritative execution endeavours allude to client discernments about the inner promoting effort and usage approach (by preparing and specialized help) for the benefit of the association as a change operator. Support and responsibility from senior administration and dynamic advancement exercises for the SA-innovation are cases of such execution endeavours. Top administration bolster has been proposed as a critical factor for fruitful execution of data frameworks by and large. On account of the offers computerization top administration bolster, preparing, pilot testing, venture championing and field bolster has been recommended as critical viewpoints for fruitful execution. Acclimate the hypothetical suppositions made in TAM.

CHAPTER 4
METHODOLOGY

This chapter discusses the matter regarding the study model coupled with collecting tools for data and participants, in addition with a test of reliability of the data.

4.1 Research model

By aim, the research tries to investigate the acceptance of Learning Management Systems by students. To completely inspect the relationship that exists between the free and ward factors of the investigation, the model portrayed in Figure 4.1 was proposed and utilized as a part of this examination. The examination show has been coordinated to incorporate basic traits from three innovation models in particular; TAM, UTAUT and (DOI) with a specific end goal to completely comprehend whether understudies will adjust to this new innovation, the develop of seeing value, conduct expectation and see convenience was gotten from the innovation acknowledgment display TAM, while those of exertion anticipation and execution hope were acquired from the UTAUT. A lot more of carried out research on this subject is limited to the use of one or two models and this has motivated the researcher to conduct this study integrating three models to fully understand the subject. The research design is quantitative and correlational.
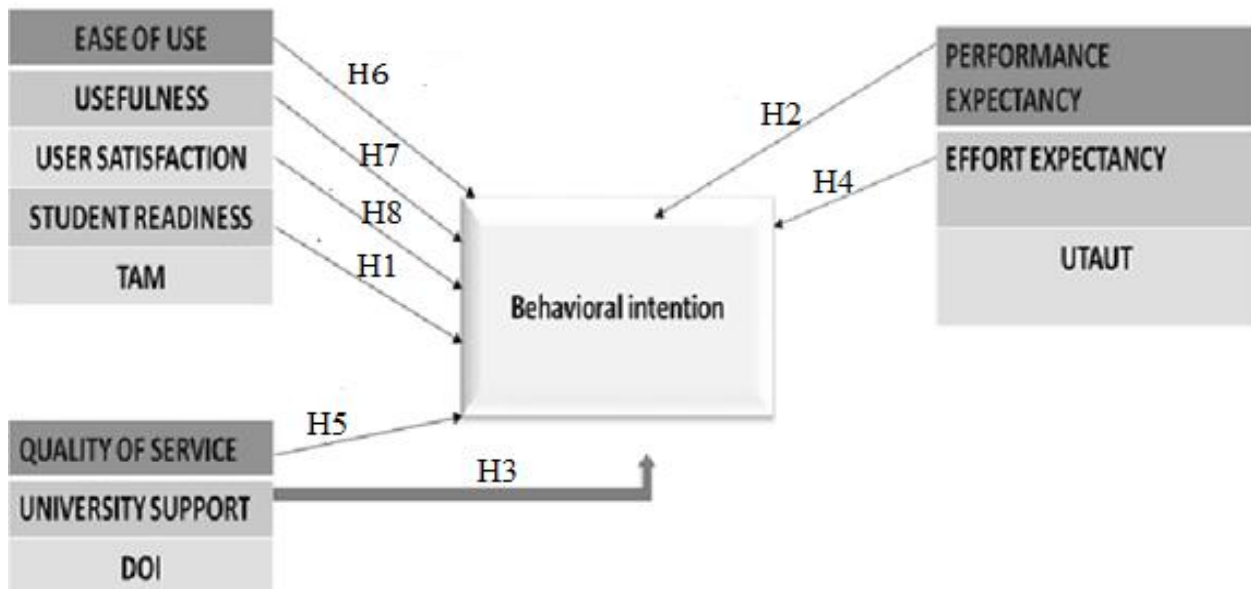
Figure 4.1: The Research Model

4.2 Participants

The participants of the survey were students. The participants filled the questions voluntarily the total number of valid participants in the study were 700 students, in a distribution of 296 undergraduate and 404 postgraduate (Masters and PhD). For the sake of conveniency, in this study students enrolled into six universities situated in the North Cyprus were focused on. The universities are Near East University (NEU), Eastern Mediterranean University (EMU), Cyprus International University (CIU), Girne American University (GAU), European University of Lefke and Girne University. The sample size of 700 used in this research is sufficient with respect to the 377 standard acceptable on Roasoft calculator; by taking the estimate sample size from the six universities at 20,000 under 95% confidence level.

The participants were distincltly classified into two mian categories; Science, Technology, Engineering and Mathematics (STEM) departments and others. The reason why STEM was chosen was that the researcher was interested in finding out if there was any difference in knowledge and acceptance rates between IT and science students versus other non-scientific students who are not exposed to technology a lot.

4.2.1 Demographic data of research participants

Demographic information of the participants are organised and presented in the following tables and figures repectively. As shown in Table 4.1 below there were 387 male participants (55.3%) and 313 female participants (44.7%). The data split based on age groups are; 56.7% (N = 397) of 17-22 years, 31.4% (N = 220) of 23-27 years, 11.9% (N = 83) of 28 years and above. The age grouping was adapted from McLeon (2018).

Most participants were master's students as seen by the highest number of participants which were 316, followed by undergraduate students which were 296, while the fewest number of participants were PhD students which had 88 participants. 51.6% (N = 361) of the students are studying in the STEM departments and 48.4% (N = 339) of the students are studying in departments none STEM departments.

Furthermore, the participants were asked to give account of their experiences on Learning Management Systems. Their responess indicated that 56.4% (N = 395) of the students always use Learning Management Systems, 23.3% (N = 163) of participants frequently use Learning Management Systems, while 4.1% (N = 29) have never used Learning Management Systems before as shown in the following table.

Table 4.1: Demographic data of research participant

Demographic			Frequency	Percentage
Gender	Male	Female	387	55.3%
	Total		313	44.7%
			700	100%
Age group	17-22		397	56.7%
	23-27		220	31.4%
	28 & above		83	11.9%
	Total		700	100%
Education level	Undergraduate		296	42.3%
	Masters		316	45.1%
	PhD		88	12.6%
Department	STEM		361	51.6%
	Others		339	48.4%
Experience	I never used LMS		29	4.1%
	I rarely use LMS		12	1.7%
	I occasionally use LMS		101	14.4%
	I frequently use LMS		163	23.3%
	I always use LMS		395	56.4%
Familiarity	Moodle		490	70%
	Black board		35	5%
	Connect EDU		35	5%
	Edmodo		70	10%
	Others		70	10%

4.3 Data Collection Tool

The process of data collection used for this study was in a paper-based questionnaire form, the questionnaires were given to students at 6 universities in North Cyprus. The feedback consists of two distinct sections, the first section contains the demographic information and the last part included dimensions related to the research model which Has dimensions namely; Usefulness, Ease of Use, student readiness, university support, quality of service, user satisfaction, Behavioral Intention, Effort Expectancy and Performance Expectancy. The questionnaire is made up of 47 questions which were designed to access the participant's level intention of use. The answers were on a 5 Likert Scale from "strongly disagree" (1 point), "disagree" (2 points), "Neutral" (3 points), "agree" (4 points), and "strongly agree" (5 points). The Selected items were revised.

4.3.1 Reliability

The importance of conducting a test to determiine the reliability of the collected data was simply ascertain consistency level obtained by the questionnaire. In this study, the researcher conducted a reliability test for the results using SPSS. The Cronbach alpha reliabilities of each dimension was calculated and results ranked from high to low respectively are as follows; Performance Expectancy had 0.902, Effort Expectancy 0.889, Behavioral Intention 0.904, Ease of Use had 0.940. Perceived Usefulness 0.908, quality of service had 0.846, user satisfaction had 0.948, student readiness 0.934, university support 0.942. the test showed the quality of service to have the lowest, while user satisfaction had the highest Cronbach Alpha. From studies it is described that the results of Cronbach alpha if it is .90and above it is excellent, .80 and above is good, between 7 and 8 is acceptable, between .60 and .70 is questionable, between 5 and 6 is poor and below 5 is unacceptable. Cronbach Alpha reliability of factors was shown to be within acceptable ranges for data analysis.

Table 4.2: Questionnaire Constructs and reliability test

Constructs	Number of items	Cronbach Alpha
TAM DIMENSIONS	16	0.923
UTAUT DIMENSIONS	12	0.963
DOI DIMENSIONS	13	0.787
TOTAL	**41**	**0.957**

Table 4.3: Questionnaire Sources

Constructs	Reference of Statement(s)
EXPECTANCY OF SYSTEM PERFORMANCE	
• LMS was beneficial for me.	(Venkatsh et al., 2003)
• The efficiency of my study improved with LMS	(Venkatsh et al., 2003)
• The conviniency of my study improved with LMS.	(Venkatsh et al., 2003)
• Carrying out my task was quicker with LMS.	(Venkatsh et al., 2003)
EXPECTANCY OF SYSTEM EFFORT	
• The skilfully usage seems easy for me with LMS	(Saleh et al., 2010)
• LMS usage seems quite easy	(Saleh et al., 2010)

Table 4.3: Questionnaire Sources Continued	
• Learning how to use LMS is easy for me.	(Saleh et al., 2010)
• My interaction with LMS is clear and understandable.	(Saleh et al., 2010)
BEHAVİOURAL INTENTİON TO USE	
• During my academic stay their was an intention of LMS usage	(Venkatsh et al., 2003)
• I predict I would use the LMS system frequently	(Venkatsh et al., 2003)
• I plan to use the LMS system in the future	(Venkatsh et al., 2003)
• I recommend LMS to others	(Venkatsh et al., 2003)
USER SATİSFACTİON	
• LMS systems are effective	(Venkatsh et al., 2003)
• LMS systems are efficient	(Venkatsh et al., 2003)
• LMS usage was all in all satisfactory	(Venkatsh et al., 2003)
EASE OF USE	
• LMS could be found easy for usage	(Venkatsh et al., 2003)
• LMS usage could be easy for been skilful at	(Venkatsh et al., 2003)
• Interacting with LMS could be found more understandably and clear	(Venkatsh et al., 2003)
• LMS could be found easy for its flexibility during interaction	(Venkatsh et al., 2003)
• LMS could be found easy for carrying out whatever activity wanted	(Venkatsh et al., 2003)
UNIVERSITY SUPPORT	
• With an adequate training provided then there is a better chance I could use LMS.	(Saleh et al., 2010)
• With an adequate practical and a complete tutorial by the university then there is a better chance I could use LMS	(Saleh et al., 2010)
• With an accessible support provided when needed then there is a better chance I could use LMS	(Saleh et al., 2010)
• With a good technical assistance in place then there is a better chance I could use LMS	(Saleh et al., 2010)

Table 4.3: Questionnaire Sources Continued	
STUDENT READINESS	
• With a proper working built in help facility then there is a chance I could complete my learning task	(Saleh et al., 2010)
• With a proper guide on first usage then there is a chance I could complete my learning task	(Saleh et al., 2010)
• There is a chance I could complete my learning task because I am very proficient in using mobile devices	(Saleh et al., 2010)
USEFULNESS	
• Using LMS would likely be useful in my academic life	(Venkatesh et al., 2003)
• Using LMS would likely enable me to accomplish the act of learning faster and better	(Venkatesh et al., 2003)
• My end productiveness would be boosted academically using LMS.	(Venkatesh et al., 2003)
• My academic effectiveness could be boosted whilst using LMS	(Venkatesh et al., 2003)
• My academic performances could progress positively using LMS	(Venkatesh et al., 2003)
QUALITY OF SERVICE	
• For LMS to be effective it is important for the service to be precise.	(Saleh et al., 2010)
• The effectiveness of LMS is signiant for its reliability.	(Saleh et al., 2010)
• Making the services quick is vital for LMS effectiveness	(Saleh et al., 2010)
• Making it easy for content navigation is vital for LMS effectiveness	(Saleh et al., 2010)
• Making the content easy to peruse is vital for LMS effectiveness	(Saleh et al., 2010)

Table 4.3: Questionnaire Sources Continued	
• Keeping the content of LMS upto date is vital for LMS effectiveness.	(Saleh et al., 2010)
• The requirements of users' needs should be determined and adopted as part of the LMS services	(Saleh et al., 2010)
• The security feature is not important to me during LMS usage	(Saleh et al., 2010)
• I entrust the protection of my privacy on the school.	(Saleh et al., 2010)

4.4 Data Analysis

This study involved a questionnaire survey distribution and retrieval method, to be able to obtain primary data for the research. 750 questionnaires were distributed across the six universities with no particular order or amount to the various universities. 705 questionnaires were obtained to which 5 questionnaires were rendered not fit for analysis. In total, the researcher was able to retrieve 700 questionnaires within 3weeks from these university students.

The Questionnaire data were analyzed by using SPSS 21.0 and the following analysis methods were used:

- Descriptive Statistics
- Personon Correlation:

4.5 Procedure

The topic was assigned to the researcher by her supervisor regarding the integration of three well known theoretical models of TAM, UTAUT and DOI from the literature. Initially, a review of literature was carried out for the study to begin based on the study aim and objectives after which the submission of proposals followed suite. Following an approval by the supervisor an ethical letter from the research department was issued and handed to the researcher. A questionnaire was adopted from these models and reliability tests were calculated for each model integrated and the results showed that the questionnaire results satisfy acceptable internal consistency. Next, the researcher distributed questionnaires at the universities aforementioned at public areas like on-campus restaurants, cafeterias and the library where students of different faculties meet and interact. After 3 weeks of collecting data, the questionnaires were compiled and data collected was entered into SPSS for data analysis. Data collected was analyzed and thesis report was written.

Final corrections were also done for preparations against Jury which might add valuable information afterward.

Table 4.4: Thesis research schedule

PROCEDURE	DURATION (WEEKS)
Writing of proposal	4
Proposal submission	2
Questionnaire design	1
Literature review	7
Sample data collection	3
Collected data analysis	8
Compiling last chapters	3
Submission of work to supervisor	2
Correction and amendment of the thesis	2
Total	33 Weeks

Task Name	Q1			Q2			Q3		
	July 2018	August 2018	September 2018	October 2018	November 2018	December 2018	January 2018	February 2018	March 2018
Proposal Writting	██								
Proposal Submision		░░							
Questionnaire design		▓							
Literature review			░░						
Sample data collection				██					
Data Analysis					░░░				
Compiling last Chapter							██		
Submission of work to Sup								░░	
Correction and amendmer								██	
Milestone								◆	
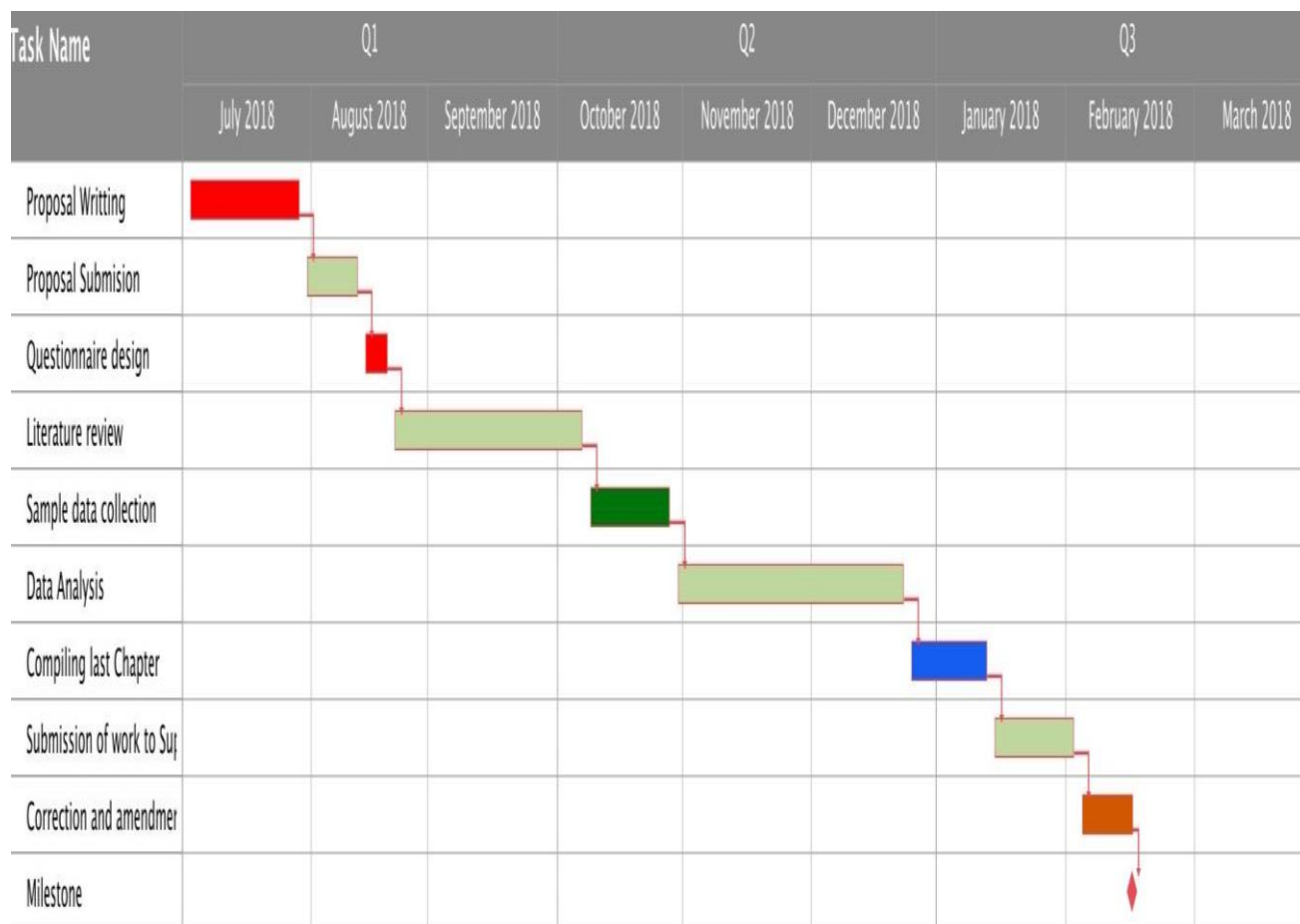
Figure 4.9: Gantt chart distribution for the research

CHAPTER 5

RESULTS AND DISCUSSIONS

This chapter is a compilation of the analysed data. Results are discussed and compared wih previous findings in the literarture to find similarities and differences. An analysis of the research questions are conducted and the outcome is discussed in detail.

5.1 Relation that exist on LMS usage in between Student Readiness (SR) and Behavioural Intention (BI)

H1: A positive relation exist between behavioural intention with students' readiness to use Learning Management Systems

In order to get the association that exist in between intentional behaviour with student readiness, a Pearson correlation analysis was conducted, this relationship depicts the first hypothesis. The table 5.1, shows the result of findings as regards the first hypothesis, the correlation between behavioural intention and student readiness was found to be strong. Thus, there is a strong relationship between both variables, which was significant at (P<0.000) meaning that there is an indication of significant relationship between student readiness with intentional behaviour to use LMS. Apparently, scatter plot in figure 5.1 also showed the strong relationship between both variables. This brings the researcher to the conclusion that with increase in students' readiness there would be a significant increase in the student's behavioural intention to use LMS..

Table 5.1: Relationship between student readiness and behavioural intention

		Behavioural Intention	Student Readiness
Behavioral Intention	Correlation Pearson	1	.094[*]
	Sig relation (2-tailed)		.000
	N	700	700
Student Readiness	Correlation Pearson	.094[*]	1
	Sig relation (2-tailed)	.000	
	N	700	700
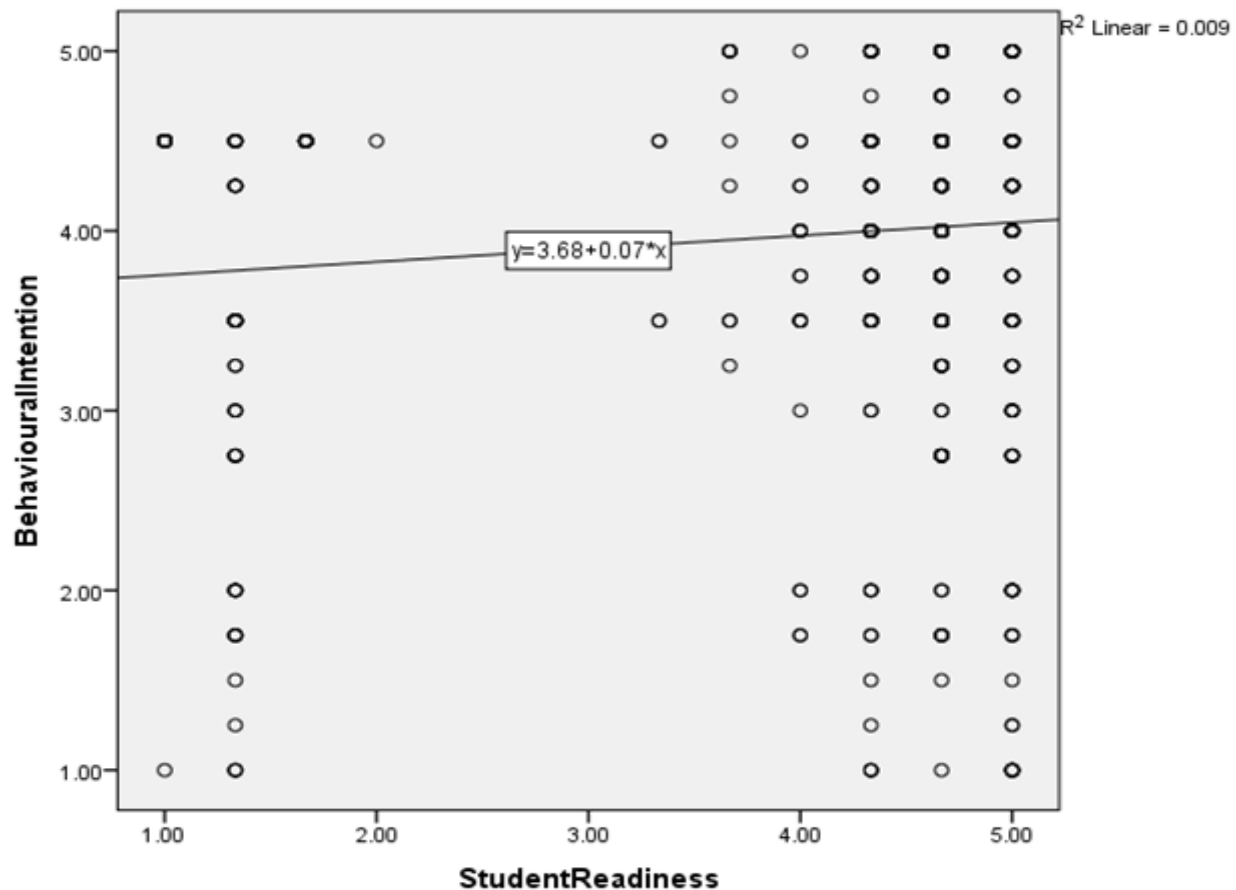
Figure 5.1: Scattered plot of the relation with student readiness and intentional behaviour
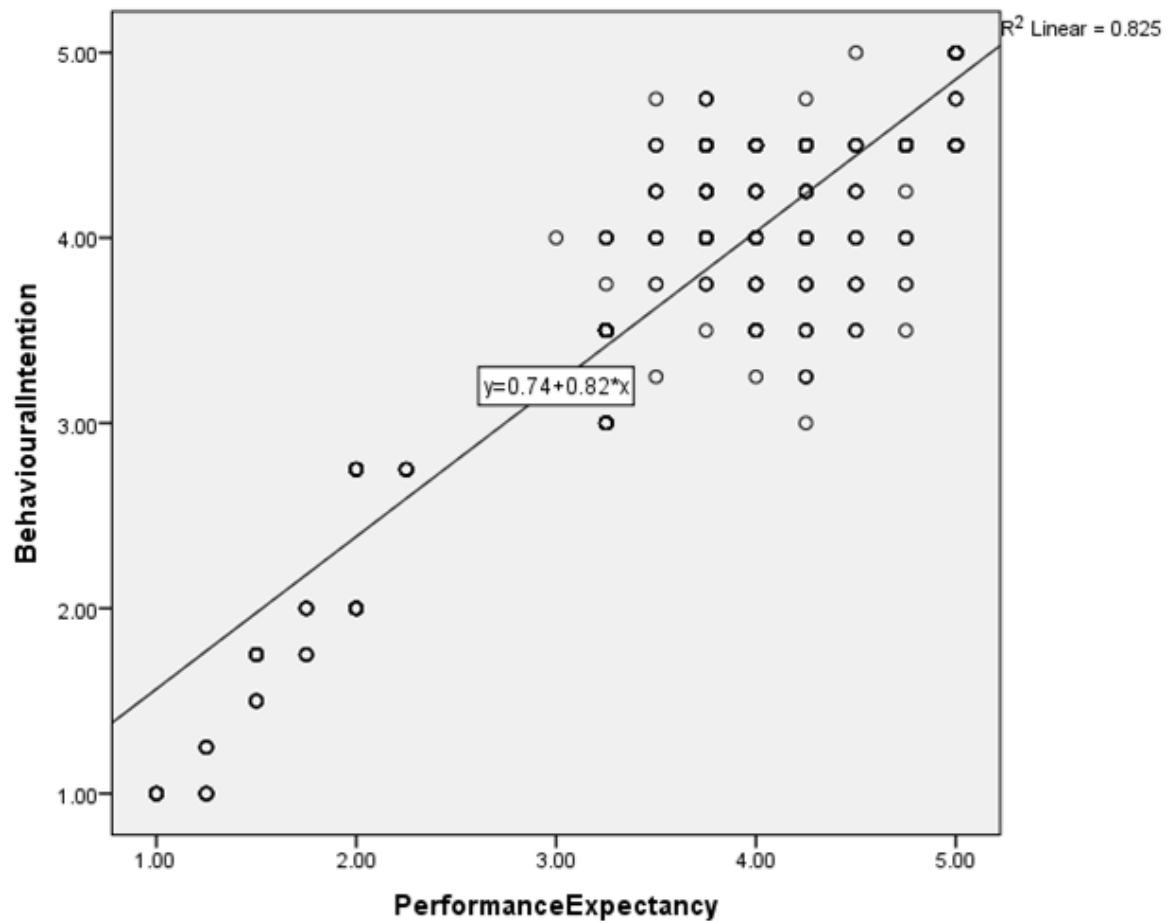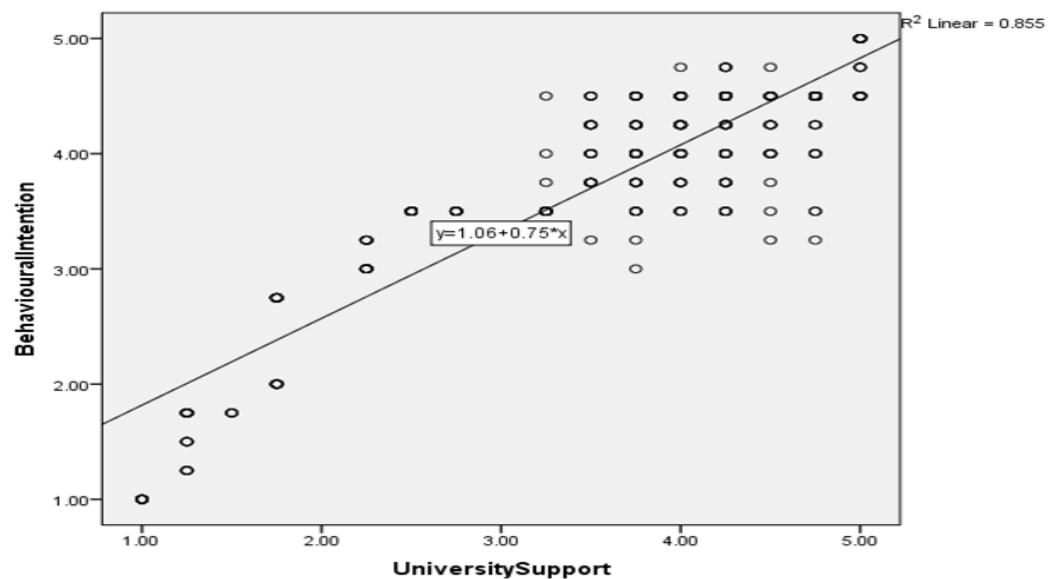
5.2 Relation that exist on LMS usage in between Performance Expectancy (PE) and Behavioural Intention (BI).

H2: A positive relation exist on LMS usage in between performance expectancy and intentional behaviour.

Performance expectancy also have a solid relation with the student's intentional behaviour as seen in the correlation analysis result. The results as seen in Table 5.2 below shows that there is a positive relationship between behavioural intention and performance expectancy, this is a depiction of the second hypothesis as suggested by the researcher. With the observation of the strong relationship between both variables, which was significant at (P<0.000) the researcher, therefore, concludes that an increase in performance expectancy would also lead to an increase in the student's behavioural intention to use LMS.

Table 5.2: Relation with performance expectancy and intentional behaviour

		Behavioural Intention	Performance Expectancy
Behavioral Intention	Pears. Corr.	1	.908[**]
	Sig relation (2-tailed)		.000
	N	700	700
Performance Expectancy	Pears. Corr.	.908[**]	1
	Sig relation (2-tailed)	.000	
	N	700	700

Figure 5.2: Scattered plot of the relationship between performance expectancy and behavioural intention

5.3 Relation that exist on LMS usage in between University Support (UniS) and Behavioural Intention (BI)

H3: A positive relation exist on LMS usage with university support and intentional behaviour

To obtain the relation with intentional behaviour and university support the correlation of Pearson was also conducted as seen in table 5.3, and the figure 5.3. It can be observed there is a strong relationship between both variables, which was significant at (P<0.000) this relationship is seen to be positive with an r of .925 the researcher, therefore, concludes that a significant increase in university support would, in turn, lead to a significant increase in student's behavioral intention to use LMS.

Table 5.3: The relationship between university support and behavioural intention

		Behavioural Intention	University Support
Behavioral Intention	Pears. Corr.	1	.925[**]
	Sig. (2-tailed)		.000
	N	700	700
University Support	Pears. Corr.	.925[**]	1
	Sig. (2-tailed)	.000	
	N	700	700

Figure 5.3: Scattered plot of the correlation with university support and intentional behaviour

5.4 Relation that exist on LMS usage in between the Effort Expectancy (EE) and Behavioural Intention (BI)

H4: A positive relation exist on LMS usage between effort expectancy and intentional behaviour

The effort expectancy brings forth a solid relationship with behavioural intention, as seen in table 5.4 below. The table shows the correlation between behavioural intention and effort expectancy as obtained from the Pearson correlation analysis result. Apparently, it can be observed that there is a positive relationship between both variables, which was significant at $(P<0.000)$, also in the scattered plot representation in figure 5.4 below it is shown that the relationship is strong and positive with an r of 0.73. To this effect, the researcher concludes that an increase, as well as a drop in effort expectancy, would lead to a similar action in the student's behavioural intention to use LMS

Table 5.4: Relation in between effort expectancy and intentional behaviour

		Behavioural Intention	Effort Expectancy
Behavioral Intention	Pears. Corr.	1	.857[**]
	Sig. (2-tailed)		.000
	N	700	700
Effort Expectancy	Pears. Corr.	.857[**]	1
	Sig. (2-tailed)	.000	
	N	700	700
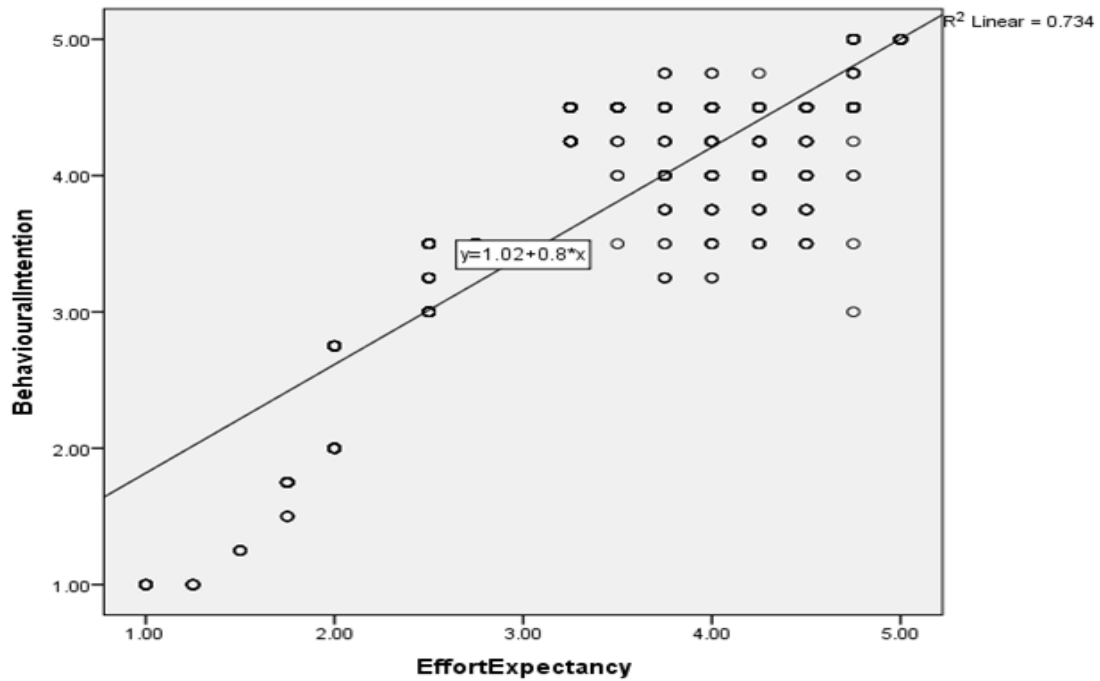
Figure 5.4: Scattered plot of the correlation with effort expectancy and intentional behaviour

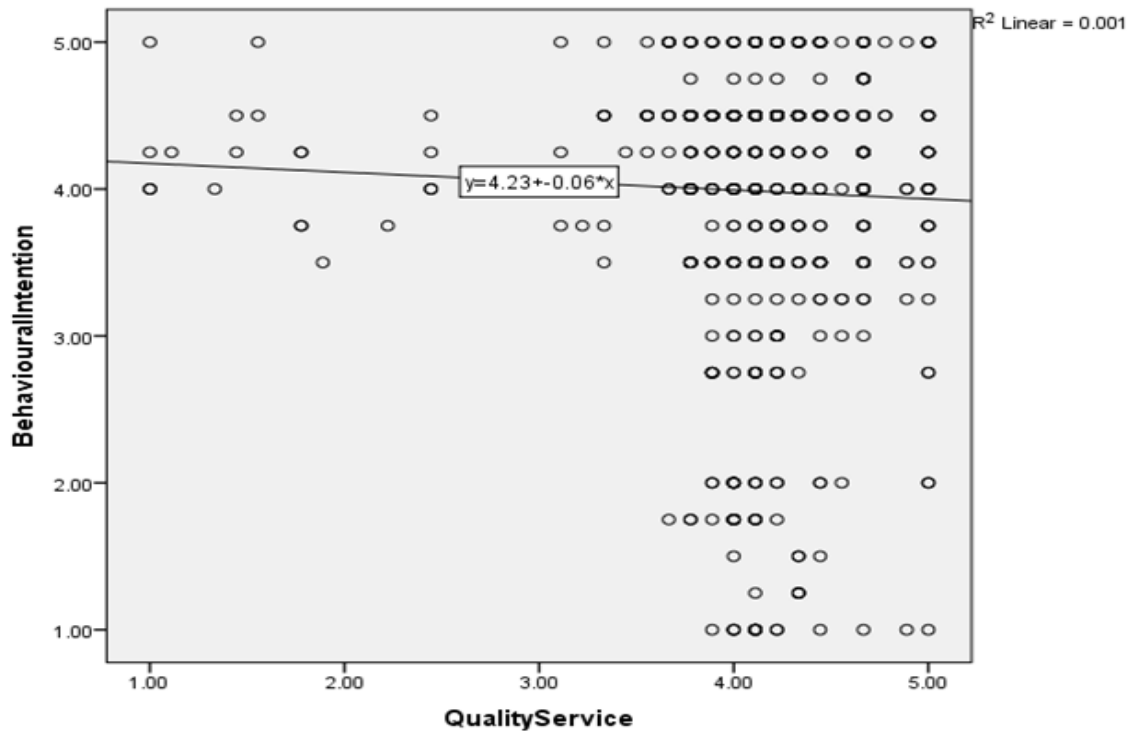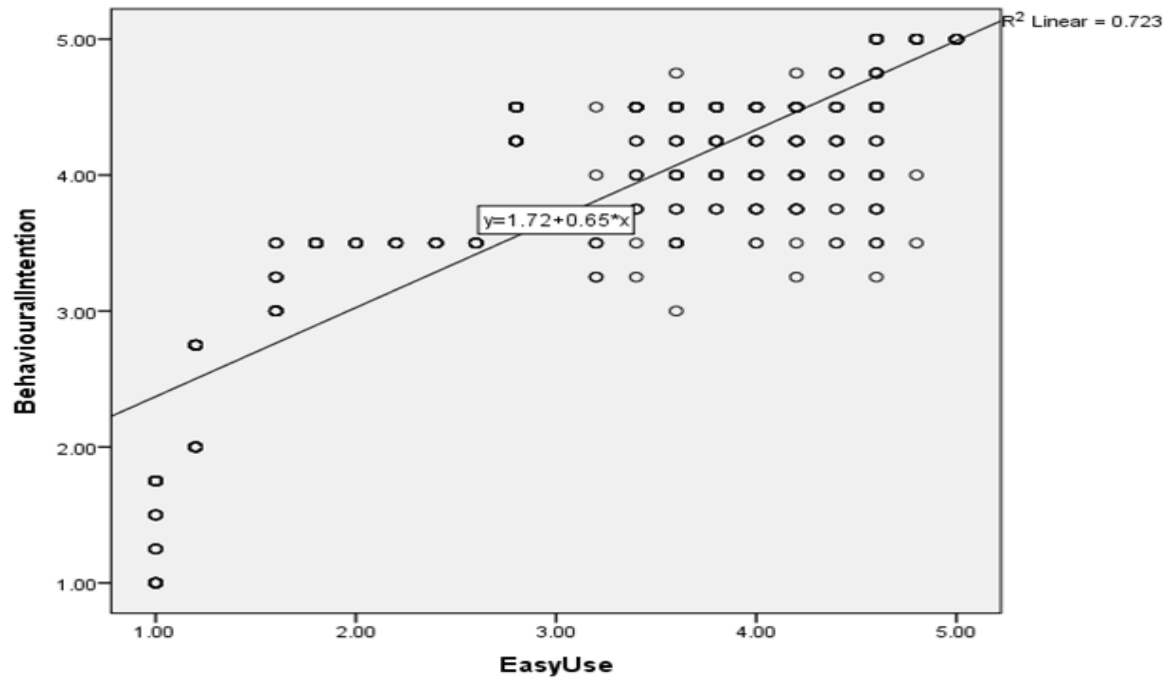## 5.5 Relation that exist on LMS usage in between Quality of Service (QoS) and Behavioural Intention (BI)

H5: A positive relation exist on LMS usage with quality of service and intentional behaviour

The table 5.5 below shows the correlation between behavioural intention and quality of service. It can be observed there is no relationship between both variables, which was not significant at (P>0.000) the correlation analysis depicts our fifth research hypothesis stating there is a relation that exist on LMS usage with quality of service and intentional behaviour, as such the researcher rejects the hypothesis.

Table 5.5: The relationship between quality of service and behavioural intention

		Behavioural Intention	Quality of Service
Behavioral Intention	Pears. Corr.	1	-.036
	Sig relation (2-tailed)		.343
	N	700	700
Quality of Service	Pears. Corr.	-.036	1
	Sig relation (2-tailed)	.343	
	N	700	700

Figure 5.5: Scattered plot of the relationship between quality of service and behavioural intention

5.6 Relation that exist on LMS usage in between Ease of Use (EU) and Behavioural Intention (BI)

H6: A positive relation exist on LMS usage in between ease of use and intentional behaviour

The simplicity of using LMS software in relation to the behavioural intention could be depicted in Table 5.6. The table shows the correlation between behavioural intention and ease of use. It can be observed there is a strong relationship between both variables, which was significant at (P<0.000) meaning that a positive relation exist on LMS usage with ease of use and intentional behaviour, this can also be seen in the scatter plot representation. The results depict the sixth hypothesis and on that note the researcher concludes that an increase in ease of use leads to an increase in the student's behavioural intentions to use LMS.

Table 5.6: Relation between ease of use with intentional behaviour

		Behavioural Intention	**Ease of Use**
Behavioral Intention	Pears. Corr.	1	.851**
	Sig relation (2-tailed)		.000
	N	700	700
Ease of Use	Pears. Corr.	.851**	1
	Sig relation (2-tailed)	.000	
	N	700	700

Figure 5.6: Scattered plot of the relationship between ease of use and behavioural intention
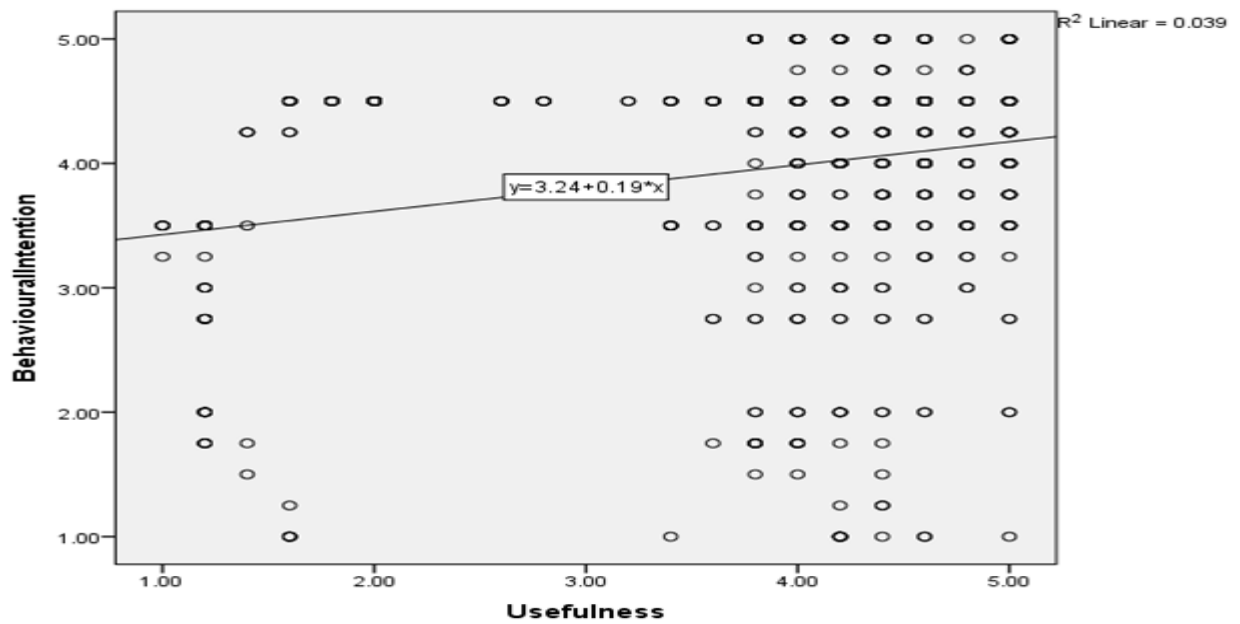
Figure 5.7: Scattered plot of the relationship between usefulness and behavioural intention

## 5.7 Relation that exist on LMS usage in between Usefulness (U) and Behavioural Intention (BI)

H7: A positive relation exist on LMS usage between usefulness and intentional behaviour

Table 5.7 shows the correlation between behavioural intention and usefulness, as analyzed by the Pearson correlation analysis. We can observe a weak postive relationship between both variables, which was significant at (P<0.000) the relation with usefulness and intentional behaviour intention to use LMS is said to be positive which means an increase in usefulness leads to a mild increase in behavioural intention.

Table 5.7: The relationship between usefulness and behavioural intention

		Behavioural Intention	Usefulness
Behavioral Intention	Pears. Corr.	1	.197**
	Sig. (2-tailed)		.000
	N	700	700
Usefulness	Pears. Corr.	.197**	1
	Sig. (2-tailed)	.000	
	N	700	700

5.8 Relation that exist on LMS usage in between User Satisfaction (US) and Behavioural Intention (BI)

H8: A positive relation exist on LMS usage between user satisfaction and intentional behaviour

To obtain the relationship existing between behavioural intention and user satisfaction, and to get the solution to our suggested eighth hypothesis, the Pearson correlation analysis was also conducted for both variables. The researcher's observation was that there is a strong relationship between both variables, this was significant at (P<0.000) the relation was seen to be a positive strong relationship as suggested in the scatter plot representation of figure 5.1.8. This means that user satisfaction is an important measure of the student's behavioural intention to use LMS

Table 5.8: The relationship between user satisfaction and behavioural intention

		Behavioural Intention	User Satisfaction
Behavioral Intention	Pears. Corr.	1	.922[**]
	Sig relation (2-tailed)		.000
	N	700	700
User Satisfaction	Pears. Corr.	.922[**]	1
	Sig relation (2-tailed)	.000	
	N	700	700
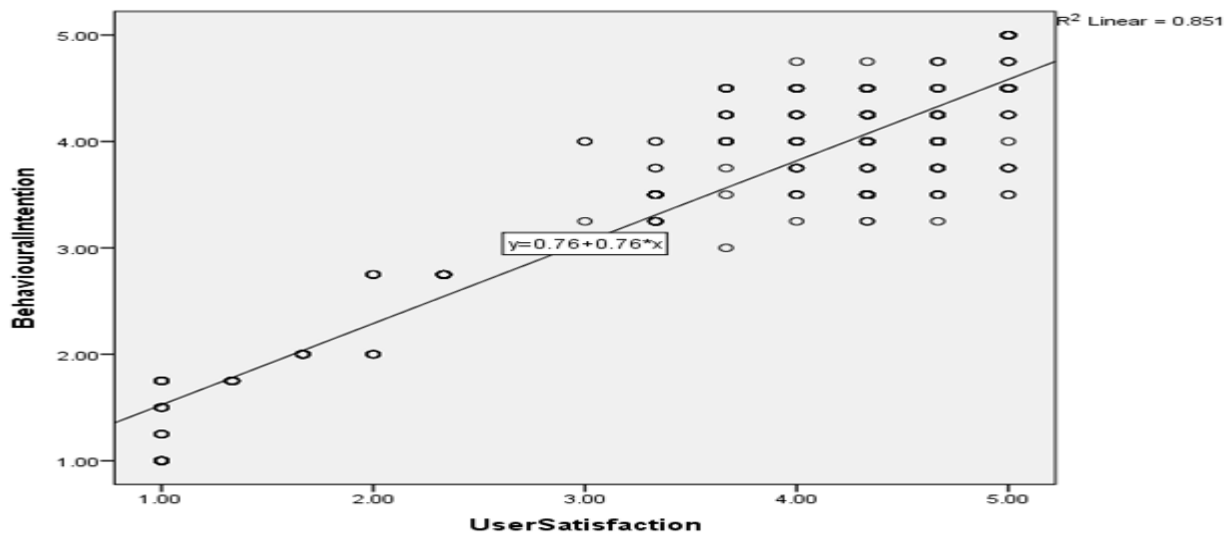
Figure 5.8: Scattered plot of the relationship between user satisfaction and behavioural intention

5.9 Summary of findings

To get a full understand of students' intention to use learning management systems, the findings could be found briefed in Table 5.9:

Table 5.9: Summary of Findings

Hypothesis	IV	DV	r value	Correlation coefficient (+/-)	Supported
H1	SR	BI	0.970	Strong+	Yes
H2	PE	BI	0.908	Strong+	Yes
H3	UniS	BI	0.925	Strong+	Yes
H4	EE	BI	0.857	Strong+	Yes
H5	QOS	BI	- 0.036	Weak-	No
H6	EU	BI	0.851	Strong+	Yes
H7	U	BI	0.197	Weak+	Yes
H8	US	BI	0.922	Strong+	Yes
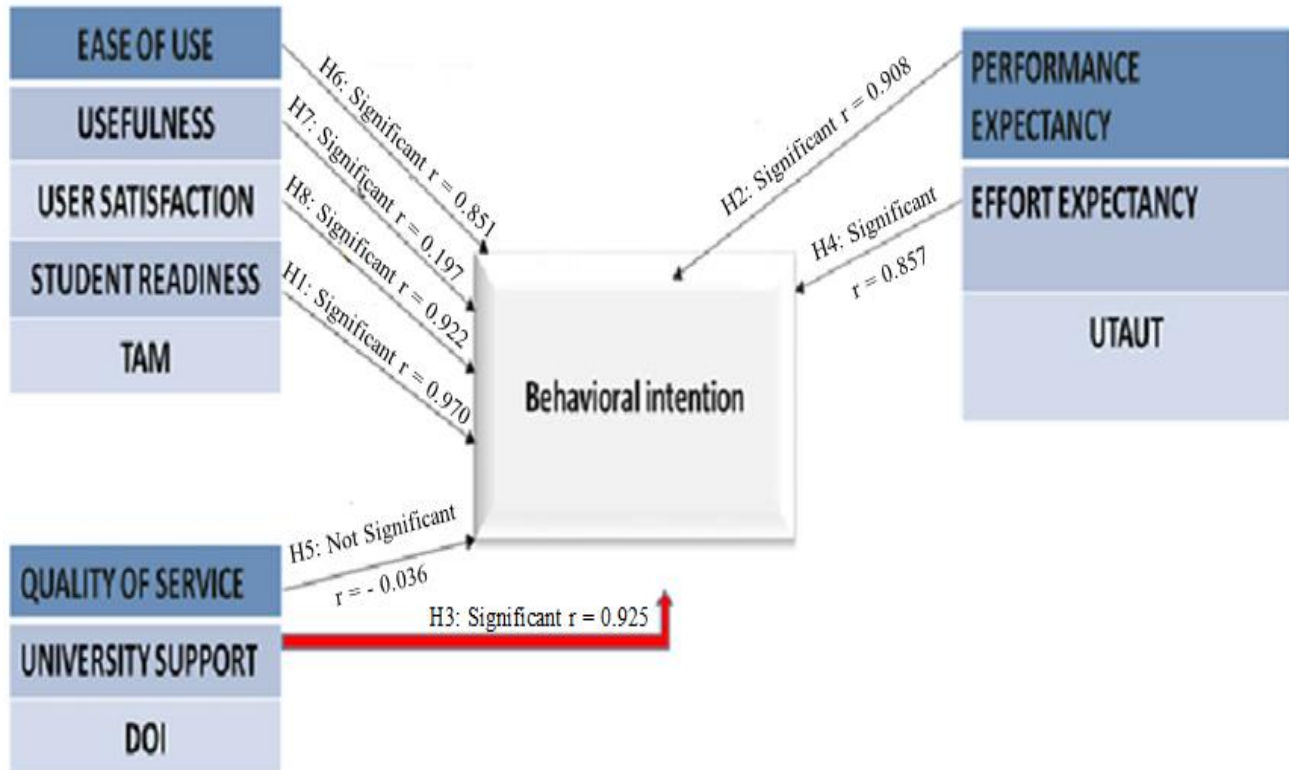
Figure 5.9: Summary of findings and correlations

5.9.1 Discussion

The findings of this research have shown that the behavioral intention is related to the independent variables in both positive and negative ways. For the first result which states that there is a strong relationship between student readiness and behavioral intention to use LMS, the finding is significant and is inline with the findings of Ayub et al. (2010), which suggested that the LMS readiness of university students is related to the technological background and the technological awareness of the student. This as well determines their level of optimism to use the LMS that they are been introduced to for the very first time.

Basically, every student has a level of performance that is desired by an application of learning, however in this study the result of the relation that exist on LMS usage between performance expectancy and intentional behavioral, was seen to be very strong, this can be compared with results obtained by Park (2009) where it is shown that the level of performance plays a major role as one of the factors that affects behavioral intention.

In the third result, it can be seen that there is a relationship between university support and behavioural intention to use LMS. The amount of interest that a university put in a particular application in terms of purchasing the required equipments, employing the experienced tutors and otherwise would play a very significant role in determining behavioural intention. As suggested by Stair and Reynolds (2012), it is important that universities invest considerable funds in Learning Management Systems projects to be able to boost the learning fervor of the students.

The results of the relationship between behavioural intention and effort expectancy Show that there is a strong relationship between both variables, the amount of effort to be put in the use of the application is of high consideration by the intended users, as suggested in the study by Abdullah et al. (2016).

For the correlation between behavioural intention and quality of service. It can be observed that there is no relationship between both variables, although we can say that quality of the service provided by the LMS software is very important as the intending user may want to know the quality and the standard of the application, but the result of this study corresponds with the result of studies by Mcgill et al. (2003), which shows that there was, no relationship between users perceived quality of service or user ratings and the behavioral intention towards the application.

As for the correlation between behavioural intention and ease of use, it can be observed that there is a strong relationship between both variables, which is very important because the present

generation of software users are always bent on knowing how easy it will be for them to use the software, as suggested by Liao et al. (2007), perceived ease of use has a strong influence on satisfaction as well as the behavioral intention, by creating a room for positive feelings such as enjoyment and achievement.

The next result is of the relationship between usefulness and behavioural intention to use LMS where it can be observed that there is a strong relationship between both factors. The influence of usefulness on the intentions of application users cannot be overemphasized, as shown in the research by Limayem and Cheung (2011), it went further to suggest that to facilitate students' perceived usefulness, workshops or training sessions can be undertaken at the start of every semester so as to introduce the process of implementation of the LMS and how it would be used according to the school curriculum.

Lastly, in the correlation of the relationship between user satisfaction and behavioural intention to use LMS, we can as well observe a strong relationship between both factors suggesting the importance of user satisfaction as a key player in the behaviour intention. According to Mcgill et al. (2003), user satisfaction would affect future intention to use, therefore it must be preceded in a broadest sense, it also suggested that a greater perceived satisfaction would lead to high intention, and positive prior experience with use will also result in a greater user satisfaction. With the findings of this study in relation to the previous studies, we can say that the level of users fulfilment is expected to access the level of expectation to utilize and in this manner decide the measure of utilization of LMSs.

CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS

Conclusively this study gives a general overview of the importance of the findings of the study in this section, whilst suggesting future recommendations further study

6.1 Conclusion

The paper explored the intentions of students to use learning management systems in North Cyprus universities, with the help of a questionnaire and the collected survey data for analysis. The results of the research have been able to prove that:

- There is a strong link between the behavioral intention of the intendant users of learning management systems, and some factors, these factors include simplicity during system usage which seems significant based on present generation of software users is always bent on knowing how easy it will be for them to use the software. Users always do not want to go for software that is not user-friendly or are difficult to use. The Quality of service, the User satisfaction, university support, Performance expectancy, Effort expectancy, and Usefulness.

- The user intention and attitude can also be affected by the user satisfaction in a very significant way as such the expectations of the user should be met to a large extent.

- The results proved that all factors except the quality of services possess strong relationships with the behavioural intentions of the students, this means that the students intend to use LMS influenced based on QoS.

- Discoveries of this exploration will be of enthusiasm of instructors and college administrators worried about the reception and development of the Learning Management Systems services provided by universities. This study findings could be beneficials for individuals that make design of courses used in schools.

- Furthermore, it can be concluded that the importance of this study has been to ascertain the importance of the variables that contribute to the student's behavioural intention as each student possess different opinion as to the use of the program.

6.2 Recommendations

As this study mainly investigated the student's behavioural intention to use the learning management system, for the advancement of their knowledge, the researcher might not fully explored all the possibilities of other larger communities, as well as go into details as to the kind of solutions that can be applicable to the challenges as identified by the students.

With respect to the findings from this research the researcher makes the following recommendations:

- The educationists should consider the factors that affect the student's usage of the learning management systems.

- Students should take advantage of the opportunities in learning using the LMS as it will enhance and improve their performance.

- This research was limited to University students in North Cyprus; it is necessary that an important research such as this be carried out on a larger sample size, to get a broader view on weather rationality or other location-related factors can affect the student's intentions to use LMS.

- Awareness programs should be implemented at universities where students are taught on the advantages of using LMS for their studies. This could be through organizing seminars or workshops. In addition, computer lessons should be mandatory for all degrees as this forms the basis for modern learning approaches.

- And finally, further research should be carried out to investigate the students as well as user satisfaction after thorough usage of the software.

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APPENDICES

APPENDIX 1

ETHICAL APPROVAL LETTER:

YAKIN DOĞU ÜNİVERSİTESİ

BİLİMSEL ARAŞTIRMALAR ETİK KURULU

22.11.2017

Sayın Manar Almabrouk Alsghaier

Bilimsel Araştırmalar Etik Kurulu'na yapmış olduğunuz YDÜ/FB/2017/13 proje numaralı ve **"Investigating University Students Intention to Use E-Learning Management Systems (LMS)"** başlıklı proje önerisi kurulumuzca değerlendirilmiş olup, etik olarak uygun bulunmuştur. Bu yazı ile birlikte, başvuru formunuzda belirttiğiniz bilgilerin dışına çıkmamak suretiyle araştırmaya başlayabilirsiniz.

Yardımcı Doçent Doktor Direnç Kanol

Bilimsel Araştırmalar Etik Kurulu Raportörü

Not: Eğer bir kuruma resmi bir kabul yazısı sunmak istiyorsanız, Yakın Doğu Üniversitesi Bilimsel Araştırmalar Etik Kurulu'na bu yazı ile başvurup, kurulun başkanının imzasını taşıyan resmi bir yazı temin edebilirsiniz.

BİLİMSEL ARAŞTIRMALAR ETİK KURULU

22.11.2017

Dear Manar Almabrouk Alsghaier

Your application titled **"Investigating University Students Intention to Use E-Learning Management Systems (LMS)"** with the application number YDÜ/FB/2017/13 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assist. Prof. Dr. Direnç Kanol
Rapporteur of the Scientific Research Ethics Committee

Direnc Kanol

 Note: If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this document.

THE QUESTIONNAIRE:

INVESTIGATING UNIVERSITY STUDENTS' INTENTION TO USE E-LEARNING MANAGEMENT SYSTEMS

University Students' Intention to Use E-Learning Management Systems questionnaire

The questionnaire is a part of MS thesis study and its aim is to investigate **University Students' Intention to Use E-Learning Management System**. Responses to this questionnaire are voluntary and are kept confidential and information will be used for educational purposes only. Please read each question carefully and choose the most convenient for you. You are required to answer all questions. Your participation is greatly appreciated.

Contact: Manar Almabrouk Alsghaier (manaralsghaier@gmail.com) phone: 05488200330

Thesis Supervisor: Assist. Prof. Dr Seren Başaran (seren.basaran@neu.edu.tr)

Near East University – Department of Computer Information Systems. Nicosia, North Cyprus.

An E-learning management system (LMS) refers to a software application or Web (/mobile/cloud)-based technology used to plan, implement, and assess a specific learning process.

SECTION I: Demographic Information:

1. **Gender:**

○ Male   ○   Female

2. **In what age group are you?**

○ 17-22   ○ 23-27   ○ 28   and above

3. **Level of Study**

○ Undergraduate ○Master Student   ○ PhD student

4. **Department Type** :

○ STEM (Science, Technology, Engineering,   ○ Mathematics)   Other

5. **Have you used LMS?**

○ I never used LMS ○   I rarely use LMS   ○   I occasionally use   ○   LMS   I frequently ○   use LMS   I   always use LMS

6. **Which of the following LMS are you familiar with?**

○ Moodle   ○ Edmodo   ○ ConnectEDU ○ Blackboard

Other:_____

SECTION II: Performance Expectancy	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
7. I feel that LMS is useful.					
8. LMS improves my study efficiency.					
9. LMS improves my study convenience.					
10. LMS lets me do study related tasks more quickly.					
SECTION III: Effort Expectancy	Strongly Disagree	disagree	Neutral	Agree	Strongly Agree
11. Skillfully using LMS is easy for me.					
12. I find that using LMS is easy.					
13. Learning how to use LMS is easy for me.					
14. My interaction with LMS is clear and understandable.					
SECTION IV: Behavioural Intention to Use	Strongly Disagree	disagree	Neutral	Agree	Strongly Agree
15. I intend to use the LMS system in my academic life					
16. I predict I would use the LMS system frequently					
17. I plan to use the LMS system in the future					
18. I recommend LMS to others					
SECTION V: User Satisfaction	Strongly Disagree	disagree	Neutral	Agree	Strongly Agree
19. LMS systems are effective					
20. LMS systems are efficient					
21. Overall, I am satisfied with LMS systems					
SECTION VI: Ease of Use	Strongly Disagree	disagree	Neutral	Agree	Strongly Agree
22. I would likely find LMS easy to use					

	Strongly Disagree	disagree	Neutral	Agree	Strongly Agree
23. It would likely be easy for me to become skilful at using LMS					
24. I would likely find my interaction with LMS to be clear and understandable					
25. I would likely find LMS flexible to interact with					
26. I would likely find it easy to get LMS to do what I want it to do					
SECTION VII: University Support	**Strongly Disagree**	**disagree**	**Neutral**	**Agree**	**Strongly Agree**
27. I am likely to use LMS if I am provided the instructor-led training I need					
28. I am likely to use LMS if the university provides me with complete instruction and practice					
29. I am likely to use LMS if I know where to go when assistance is needed					
30. I am likely to use LMS if the university provides good technical					
SECTION VIII: Student Readiness	**Strongly Disagree**	**disagree**	**Neutral**	**Agree**	**Strongly Agree**
31. I would likely complete a learning task using LMS if I only had the built-in help facility for assistance					
32. I would likely complete a learning task using LMS if someone showed me how to use it first					
33. I would likely complete a learning task using LMS because I think I am very good at using my mobile					

SECTION IX: Usefulness	Strongly Disagree	disagree	Neutral	Agree	Strongly Agree
34. Using LMS would likely be useful in my academic life					
35. Using LMS would likely enable me to accomplish learning tasks more quickly					
36. Using LMS in my academic life would likely increase my productivity (do more things)					
37. Using LMS would likely enhance my effectiveness in my academic life (do things better and smarter)					
38. Using LMS would likely improve my academic life performance					
SECTION X: Quality of Service	Strongly Disagree	disagree	Neutral	Agree	Strongly Agree
39. For LMS to be effective it is important for the service to be accurate (error free)					
40. For LMS to be effective it is important for the service to be reliable (always available).					
41. For LMS to be effective it is important for the service to be adequately fast (fast download					
42. For LMS to be effective it is important for the content to be easy to navigate					
43. For LMS to be effective it is important for the content to be understandable					
44. For LMS to be effective it is important for the content to be current (up to date).					
45. It is important that LMS services are					

personalized to understand my needs					
46. I would likely not be worried about security when using LMS.					
47. I trust the ability of the university to protect my privacy.					

Thank you for participation

APPENDIX 3

SIMILARITY REPORT:

	AUTHOR	TITLE	SIMILARITY	GRADE	RESPONSE	FILE	PAPER ID	DATE
☐	Manar Almabrouk Alsg...	Abstract	0% ■	--	--	📄	982046749	12-Jul-2018
☐	Manar Almabrouk Alsg...	Conclusion	0% ■	--	--	📄	982046760	12-Jul-2018
☐	Manar Almabrouk Alsg...	Introduction	0% ■	--	--	📄	982046750	12-Jul-2018
☐	Manar Almabrouk Alsg...	Literature Review	0% ■	--	--	📄	982046752	12-Jul-2018
☐	Manar Almabrouk Alsg...	Methodology	1% ■	--	--	📄	982046751	12-Jul-2018
☐	Manar Almabrouk Alsg...	Results	6% ■	--	--	📄	982046754	12-Jul-2018
☐	Manar Almabrouk Alsg...	Theoretical Framework	6% ■	--	--	📄	982046753	12-Jul-2018
☐	Manar Almabrouk Alsg...	Thesis	15% ■	--	--	📄	982046913	12-Jul-2018