Technology Assessment of Bachelor Nursing Science Staff Using the Technology Acceptance Model

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Abstract

Institutions of higher learning continue to transition from traditional classroom to eLearning, requiring users to develop the technical skills to adapt and cope with the trend. The learning management system (LMS) provides a platform in which are embedded software or computer programs used to create, manage, and deliver education courses and training programs and learning strategies to support eLearning. However, various features of the LMS are underutilized. This capstone project carried out at a university relatively new to LMS and distance education explored the nursing faculty's behavioral intentions to accept, adopt, and use the LMS for their courses. The project assessed the concepts that are inherent to faculty as they cope with potential changes that are related to their perception and willingness to adopt new technology such as an LMS. Concepts such as technology self-efficacy and emerging informatics, and the application of theory into practice using the technology acceptance model (TAM) were used to frame the boundaries of the project. A quantitative questionnaire guided by constructs from the TAM to assess faculty's perceived ease of use and usefulness, attitudes towards and behavioral intentions to use, and job relevance was disseminated electronically. The overall findings suggest a positive attitude and willingness of nursing faculty to accept and adopt the LMS. The TAM proved a reliable tool to assess behavioral intentions. A follow up study will be conducted to introduce the LMS use and actual adoption by faculty.

Keywords: *learning management system, e-learning platform, technology acceptance model, self-efficacy, behavioral intentions.*

Introduction

The learning management system (LMS) is a systematic infrastructure that manages the learning process of an entire organization (Watson & Watson, 2007), and a platform in which software or computer program is used to create, manage, and deliver education courses or training programs to support eLearning (Ellis, 2009). Whereas, E-Learning is a form of flexible teaching and learning facilitated by the use of a computer to deliver part, or all of a course in a school, or remotely as in distance learning (Zakariah, Alias, Aziz, & Ismail, 2012). This paper presents a project carried out using the technology acceptance model to assess bachelor nursing science faculty behavioral intentions accepting and adopting the use of LMS in teaching and learning processes. UCU is a young university in Uganda that offers the bachelors of nursing science and masters of nursing science programs for the last ten years. The university, following the global trend in the integration of technology in its services, has acquired and installed the eLearning platform to enhance productivity. Despite the capacity to access the infrastructure and resources, the eLearning platform is underutilized.

The project explored the concepts taken from courses covered in the first three blocks of doctoral study that are inherent to individuals as they cope with potential change. The concepts of technology self-efficacy and emerging informatics, and the application of theory into practice using the technology acceptance model framed the boundaries of the proposed project. Additionally, all concepts related to the perception and willingness of faculty to adopt new technology such as an LMS.

The first concept inherent to the project was self-efficacy (from psychological aspects and human interactions). Self-efficacy as related to technology (technology self-efficacy, or TSE) is defined by McDonald and Seigal (1992) as "the belief in one's ability to successfully perform a technologically sophisticated new task." The self-efficacy of faculty was assessed.

A second concept inherent in the project was emerging informatics in healthcare (from healthcare delivery systems in developed, developing and underdeveloped countries). The university is a young university (chartered within the past decade), and technology is still fairly new all across Africa. However, the topic of technology is especially important to nursing faculty as nurses continually face the forced adoption of many new technologies. The project was conducted in an academic setting and incorporated concept development and measurement of clinical phenomena in nursing as a demonstration of the potential applications which can be implemented within the LMS.

Purpose of the project

The purpose of the project was to introduce the potential of faculty in the nursing department to adopt the Uganda Christian University (UCU) eLearning platform – a form of LMS - as a means of delivering teaching and learning materials.

Literature review

The emergence of the internet in the global society has brought about dramatic changes in healthcare delivery and education system. E-learning for example, in the education system especially has changed the method and manner in which course content is delivered. The learners are able to receive and interact with educational materials and resources available through the internet. In addition, students engage with educators and peers in ways that previously may have been impossible. The traditional method of course delivery in universities for a long time has been a classroom with a professor lecturing while the students listened and took notes (Harandi, 2015). University educators worldwide have transitioned to the modern-day use of the Internet and LMS technologies as teaching and learning methods as a result of the trend and style of providing education (Harandi, 2015). Most institutions of higher education have installed various forms of technology-mediated course delivery systems to cope with policy and the trend.

E-learning can be experienced in many formats, such as through the use of stand-alone computers, the Internet, and satellites with learning materials provided by an instructor, an animated intelligent agent, or through media such as text, images, sounds, and video. E-learning takes place in any location such as classrooms, homes, and in distant field settings, and may be synchronous or asynchronous. Additionally, the number of software learning tools available to faculty and students is countless.

The eLearning technologies offer learners the formal and informal learning that is delivered at anytime, anywhere and on any subject. Uganda Christian University installed an eLearning platform to support both synchronous and asynchronous programs. Despite there being an eLearning platform, the teaching is still primarily conducted using the traditional method.

Learning management system (LMS)

Learning Management System, is a software or computer program that is used to create, manage, and deliver education courses or training programs (Ellis, 2009; Watson & Watson, 2007). An LMS, alternatively called a learning platform, and is a wide range of systems and learning services that facilitate teachers and students in accessing online resources for teaching and learning. The platform only requires a computer (Watson & Watson, 2007) and Internet connection, and login information for approved users to access relevant course content, grades, email, and class discussion boards or forums.

An LMS is the "engine" that powers eLearning, and is comprised of a server component in which staff and faculty perform the fundamental functions. These functions include creating,

managing and delivering courses, authenticating users, and serving data and notifications among others (Ellis, 2009). Users must have an interface that runs inside the browser as a web that is used by administrators, instructors and students, typically known as the intranet of an organization. There, members often find shared folder. The LMS is not only used by learning institutions to deliver learning activities, but it's also an invaluable business tool, embraced by enterprises, organizations, governments and local governments to orient or train employees.

Technology adoption patterns

To understand whether an innovation will be adopted or not, Roger's diffusion of innovations theory (1983) has been used to explain characteristics of adopters. *Diffusion* is the process by which an innovation is communicated through certain channels over a period of time among the members of a social system (Rogers, 1983 pp. 5). *Innovation*, an element of diffusion is an idea, practice, or object that is perceived to be new by an individual or other unit of adoption(Rogers, 1983, pp. 11). *Innovativeness* is the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than the other members of a system, and Rogers, (1983), described five categories of adopters who are; innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%), and laggards (16%).

In addition to the degree of innovativeness, there are other factors that influence adoption of technology. Although application of technology has been introduced in the classroom, and some teachers have positive perceptions towards its use studies show, teachers encounter difficulties implementing technology due to obstacles such as lack of training, time constraint, creative teaching practices and access to equipment (Chien, Wu, & Hsu, 2014; Nikian, Nor, & Aziz, 2013; Yang & Huang, 2008;Smarkola, 2008). Personality traits such as agreeableness, and neuroticism have also been found to influence acceptance positively or negatively (Özbek, Alnıaçık, Koc, Akkılıç, & Kaş, 2014).

Technology acceptance model

Adopting the LMS involves factors such as anxiety, personality traits, and cognitive engagement(Achim & Kassim, 2015;Saleem, Beaudry, & Croteau, 2011;Scott & Walczak, 2009) that determine the persons self-efficacy to use the technology. This project will focus on self-efficacy and acceptance as antecedents of adoption of a behavior. Self-efficacy is considered an important factor for learning, as it influences the choice of learning tasks, amount of efforts, emotions, goal setting, persistence, and achievement. *Self-efficacy* is a belief in one's capabilities to perform the courses of action (Bandura, 1977) or a judgment of a person's ability to organize and execute a course of action required to realize a designated assignment (Bandura, 1977). It is also defined as an individual's judgment of how well one can accomplish courses of action required to handle the prospective situation. In this project, self-efficacy, is referred to as the person's belief that they can adopt the LMS, and blend it with the traditional learning process.

Self-efficacy plays a central role in one's acceptance and use of new information as individuals perceive themselves capable of adopting the technology. Previous research on technology acceptance and adoption is substantial. Researchers (Rahman, Ko, Warren, & Carpenter, 2016;Kher, Downey, & Monk, 2013;Tseng & Tsai, 2010) have established perceived self-efficacy as an important aspect influencing whether the user accepts information technologies or not. Self-efficacy represents the persons' judgments of their ability to use the LMS and their confidence in finding information and communicating with an instructor within the LMS. Acceptance in this project is referred to as the adoption and effective use of an LMS. To understand acceptance or adoption of technology, researchers have studied the notion using the technology acceptance model (TAM). The TAM as described by Davis (1985), has been demonstrated in several studies to help explain and predict human behavior for adopting the use of technology (Alharbi &Drew, 2014; Gagnon, Orruno, Asua, Abdeljelil, & Emparanza, 2012; Park, 2009; Saadé, Nebebe, & Tan, 2007;Davis et al., 1989).

The TAM, an extension of the Theory of Reasoned Action (Ajzen, 1991), postulates that acceptance of a new technology can be predicted based on users' behavioral intention, attitude towards use, perceived belief of usefulness, and perceived ease of use (Davis et al., 1989). Davis (1989), introduced an adaptation model specifically meant to explain computer usage behavior. The model was used to specify the linkages between perceived usefulness (PU) and perceived ease of use (PEU), which are the key beliefs in adopting a behavior.

Davis (1989) defined *perceived usefulness* (PU) as "the degree to which a person believes that using a particular system would increase one's job performance."*Perceived ease of use* (PEU) was defined as "the degree to which a person believes using a particular system would be free of effort." Further clarification of the model's verbiage describes *useful* as being the capability of being used advantageously and *ease* is freedom from difficulty or great effort.

The model is also used to explain a user's attitudes, and the intention and actual adoption behaviors. According to Davis (1989), a person's performance of a specific behavior is determined by an individual's behavioral intention to perform the behavior (BI). Therefore, BI serves as an indicator of a person's readiness of the person to perform a certain behavior, and is jointly determined by the person's attitude (A). Behavioral intention is used to measure the capability of a person's intention to perform an indicated behavior such as adopting the use of LMS on the job or in learning. Attitude is referred to as a person's positive or negative feelings about performing a target behavior.
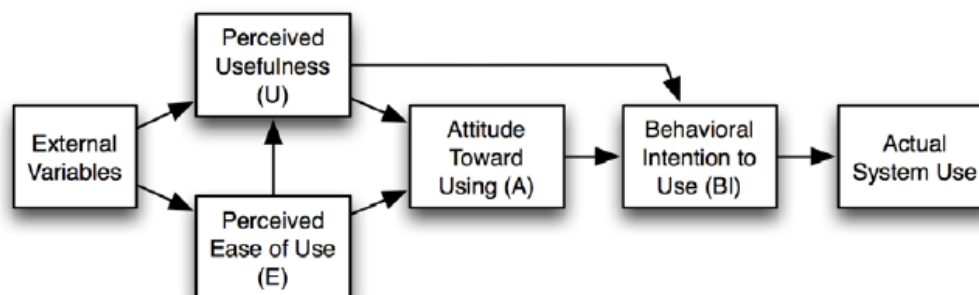

Figure 1. Technology Acceptance Model (Davis et al., 1989)

Methodology

Site

The project was carried out at a young university in Uganda, East Africa that has offered the bachelors of nursing science and masters of nursing science programs for the last ten years. The university, following the global trend in the integration of technology in its services, has acquired and installed the eLearning platform to enhance productivity especially for nurses.

Design

The study was quantitative in nature and non-experimental, and carried out using an electronic self-report questionnaire. It was cross-sectional owing to the short time available. It is purposed to assess staff behavioral intentions to adopt the LMS as an acceptable method of teaching and learning using the TAM.

Sampling

The nursing department at the university comprises of only four full time faculty and depends on part time staff. The faculties were considered for the project based on the key role they play in educating nurses and the potential for effective integration of technology such as use of the LMS for teaching and learning. They were selected using a non-probability, convenience sampling method (Polit & Beck, 2008. pp. 251), as they were readily available, and have access to the LMS, therefore possessing the characteristics necessary for participation in the study. The response rate was 65%.

The questionnaire

The 10 question survey was used with permission from Alharbi & Drew (2014) who used the TAM to predict the behavioral intention of faculty in universities to use the learning management systems (LMS). The tool was considered for use because of the similarity in the variables under study, and the high reliability ranging from 0.8-0.95 Cronbach Alpha scale, a measure of internal consistence (Polit & Beck, 2009. p. 455). Testing the minimally edited tool for validity and reliability returned a Cronbach Alpha that compared to that found by Alharbi and Drew (2014) which, consistent with research literature, deemed the survey components to demonstrate internal consistency and reliability when the Cronbach Alpha value exceeded 0.07 (see Table 7). The questionnaire was distributed in the English language as this is the primary language of instruction at the university.

The first five questions of the survey requested demographic data which has been used to describe the characteristics of the respondents. Data requested from the participant included gender, age, number of years in higher education, and academic rank. Additionally, respondents were asked to indicate their experience in years with using an LMS.Questions six through 10 specifically addressed the variables that were measured in the study through extended statements which focused on perceived ease of use, perceived usefulness, attitude towards use, behavioral intentions to use the university LMS, and the relevance of the LMS to their work. Specifically, question six listed seven statements regarding how the respondent used or intended to use the LMS, to which the respondent strongly agreed, agreed, disagreed, or strongly disagreed. Similarly, question seven addressed the respondent's perceived usefulness of the LMS to their work and included five separate statements. Question eight included three statements that focused on the respondent's attitude towards usage of the LMS in their university work. Question nine included two statements regarding the respondent's intention to use the LMS for their university work. Last, question 10 included two statements which addressed the relevance of using the LMS for fulfilling university work.

Bachelor's nursing faculty responded to each question and statement using the same Likert scale prescribed in the TAM, which asks the respondent to indicate agreement or disagreement as described above. The commercial survey program, Survey Monkey was used to distribute the questionnaire to the BNS faculty.

Data analysis

Descriptive statistics were used to describe the demographic data of the respondents, as well as the Likert rating options for each of the variables. The researcher hopes to comprehensive correlation have been demonstrated and subsequently the impact of the demographics on the significance. Correlation analysis of each of the perceptions has been used to demonstrate the overall intent of the BNS faculty to adopt the LMS (Alharbi & Drew, 2014). The data will subsequently guide the researcher on formulating a plan to hopefully assist the BNS faculty to readily adopt the LMS for their university work.

Ethical considerations

As the researcher, I was obliged to avoid, prevent, or minimize discomfort to the respondents by not subjecting them to the stress of self-disclosure that would arise as they filled in the questionnaire. I reassured them of strict confidentiality regarding the information they gave as no names were used so as not to trace the data back to the respondents. An electronic questionnaire was used, with no form of identity required of the respondents. Their selection into the study was based on the study requirements (Polit & Beck, 2009).

To gain participants' confidence and trust, I explained the nature of the study as mainly for academic purposes and that any information given was going to be of great importance towards their intentions to adopt the LMS. The respondents benefitted by beginning to think about adopting the LMS as a mode of instruction and learning. Those who did not participate were not prejudiced as participation was purely voluntary. There were no potential risks involved in this study as the respondents only shared their perceptions of intentions to use the

LMS. Written permission to collect data was obtained from the Uganda Christian University Ethics Committee.

Findings

Demographic characteristics

The findings presented were from 13 (65%) of faculty in the nursing department. The survey site was open for only three days to allow a higher response rate. The majority of respondents were female (92%), whose age ranged from 30 to 62 years with majority (46.2%) between 40 and 49 age category. The teaching experience in years ranged from one to 11 and above with equal distribution (33.3%) in the three categories. Majority (69%) were teaching/tutorial assistants, and slightly less than half (46.2%) had not used the LMS before, while 38.46% had used LMS for period ranging between one and three years. The rest of the demographic characteristics are presented in Table 1.

Table 1. Demographic characteristics

Characteristics	Responses	
	f	%
Sex		
Male	1	8.33
Female	11	91.6
Age		
30-39	5	38.8
40-49	6	46.2
50 and above	2	15.4
Number of years of experience in higher education		
1-5	4	33.33
6-10	4	33.33
11 and above	4	33.4
Academic rank		
Lecturer	4	31.0
Assistant lecturer/Tutorial assistant	7	69.0
How long have you been using a learning management system (LMS)		
Not at all	6	46.15
Less than a year	1	7.69
One to three years	5	38.46
More than three years	1	7.69

Constructs from the TAM

Perceived ease of use (PEU)

The perceived ease of use of the LMS was measured and all respondents agreed to perceiving the ease of use if the LMS would be easy, clear and understandable, flexible, easy to operate, and do what they want to do. The majority (76.9%) felt their ability to determine ease of use was limited by their lack of experience, and 23.1% disagreed with the statement indicating a possibility of reasons other than lack of experience. See Table 2: Perceived ease of use.

Table 2. Perceived ease of use

Constructs	% Responses					
A1-A7: Perceived Ease of Use (PU)	SA	A	D	SD	Mean	S.D.
1. I feel using an LMS would be easy for me	53.9	46.1	0.00	0.00	1.46	0.05

	SA	A	D	SD	Mean	S.D.
2. I feel that my interaction with LMS would be clear and understandable	33.3	66.67	0.00	0.00	1.67	0.47
3. I feel that it would be easy to become skillful at using LMS	61.54	38.46	0.00	0.00	1.38	0.49
4. I would find LMS to be flexible to interact with	58.33	41.67	0.00	0.00	1.42	0.49
5. Learning to operate LMS would be easy for me	61.54	38.46	0.00	0.00	1.38	0.49
6. It would be easy for me to get LMS to do what I want to do	58.33	41.67	0.00	0.00	1.42	0.49
7. I feel that my ability to determine LMS ease of use is limited by my lack of experience	23.08	53.85	15.38	0.00	2.15	0.95

Perceived usefulness (PU)

The perceived usefulness of the LMS was measured and all respondents (100%) agreed with the statement "LMS would improve my job performance" and "I would find LMS useful in my job". A few (15.38%) however, disagreed with the statement "using LMS in my job would enable me accomplish tasks more quickly". Consequently, 8.3% disagreed with the statements "using LMS would enhance my effectiveness on the job" and "using LMS would make it easier to do my job". See more findings in Table 3.

Table 3. Perceived usefulness

B1-B5: Perceived Usefulness (PU)	SA	A	D	SD	Mean	S.D.
1. Using LMS in my job would enable me to accomplish tasks more quickly	61.54	23.08	15.38	0.00	1.54	0.75
2. Using LMS would improve my job performance	58.33	41.67	0.00	0.00	1.42	0.49
3. Using LMS would enhance my effectiveness on the job	66.67	25.08	8.33	000	1.42	0.64
4. Using LMS would make it easier to do my job	66.67	25.00	8.33	0.00	1.42	0.64
5. I would find LMS useful in my job	66.67	33.33	0.00	0.00	1.33	0.47

Attitudes towards usage (ATU)

The attitudes towards use of LMS were measured using statements whether respondents believed it was a good idea to use an LMS, whether they liked the idea and whether using LMS was a positive idea. All respondents (100%) agreed with the statements, reflecting a positive attitude towards use of an LMS. See Table 4.

Table 4. Attitudes towards usage (ATU)

C1-C3: Attitude towards Usage (ATU)	SA	A	D	SD	Mean	S.D.
1. I believe it is a good idea to use an LMS	75.00	25.00	0.00	0.00	1.25	0.43
2. I like the idea of using LMS	69.23	30.77	0.00	0.00	1.31	0.46
3. Using LMS is a positive idea.	76.92	23.08	0.00	0.00	1.23	0.42

Behavioral intentions to use (BIU)

The intentions to use an LMS were measured with statements that asked whether respondents planned to use an LMS in the future, and their intention to use if they had access, to which statements all (100%) agreed, reflecting their behavioral intentions to use an LMS. See Table 5.

Table 5. Behavioral intentions to use

D1-D2: Behavioral Intention to Use (BIU)	SA	A	D	SD	Mean	S.D.
1. I plan to use an LMS in the future	69.23	30.77	0.00	0.00	1.31	0.46
2. Assuming that I have access to an LMS, I intend to use it	76.92	23.08	0.00	0.00	1.23	0.42

Job relevance

The relevance of using an LMS on the job was measured in statements reflecting its importance and relevance. All respondents (100%) agreed to the importance and relevance of the use of an LMS in their job. See Table 6.

Table 6. Job relevance

E1-E2: Job Relevance (JR)	SA	A	D	SD	Mean	S.D.
1. In my job, the usage of an LMS is important	69.23	30.77	0.00	0.00	1.31	0.46
2. In my job, the usage of an LMS is relevant	66.67	33.33	0.00	0.00	1.33	0.47

Instrument Reliability

The reliability of the subscales in the TAM were measured and the overall reliability according to Cronbach alpha is 0.8787, indicating the instruments high reliability to accurately measure faculty's readiness and acceptance to use an LMS. See Table 7.

Table 7. Instrument reliability

Scale	Number of items	Cronbach alpha
Perceived ease of use (PEU)	7	0.7913
Perceived usefulness (PU)	5	0.8997
Attitude towards use (ATU)	3	0.9496
Behavioral intentions to use (BIU)	2	0.7784
Job relevance (JR)	2	0.9517
Overall reliability	19	0.8787

Demographic characteristics as it correlates with PEU, PU, and ATU

To determine behavioral intentions to accept, and adopt use of LMS, statistical analysis on demographic characteristics as it correlates with PEU, PU, and ATU were performed.

Perceived ease of use

Gender, age, and experience showed no statistically significant relationship with PEU, except academic rank, and use of LMS, X^2 (2, N=13) = 9.497, p = .009, and X^2 (3, N=13) = 9.497, p = .009 respectively. See Table 8.

Table 8. Demographic characteristics in relation with PEU

Items	A1	A2	A3	A4	A5	A6	A7
Demographic Characteristics	p-value	p-value	p-value	p-value	p-value	p-value	p-value

Gender	.363	.831	.325	.645	.325	.436	.624
Age	.344	.172	.451	.138	.451	.468	.577
Experience in higher education	.401	.293	.710	.740	. 710	.615	.316
Academic rank	.308	.009	.506	.084	. 506	.084	.098
LMS Use	.301	.350	.009	.855	.136	.253	.269

Perceived usefulness

A statistically significant relationship between gender and PU of LMS is demonstrated in Table 9. The other demographic characteristics did not reveal a significant relationship.

Table 9. Demographic characteristics in relation to PU

Items	B1	B2	B3	B4	B5
Demographic Characteristics	p-value	p-value	p-value	p-value	p-value
Gender	.256	.008	.035	.035	.009
Age	.443	.468	.293	.565	.517
Experience in higher education	.723	.740	.591	.591	.723
Academic rank	.713	.550	.785	.785	.713
LMS Use	.715	.855	.253	.732	.735

Attitudes towards use

A statistically significant relationship between academic rank and attitude towards use of LMS is revealed in Table 10.

Table 10. Demographic characteristics in relation to ATU

Items	C1	C2	C3
Demographic Characteristics	p-value	p-value	p-value
Gender	902	591	701
Age	363	727	263
Experience in higher education	370	188	208
Academic rank	012	021	003
LMS Use	610	178	462

The association of PEU, PU, and ATU with BIU, and JR

The association of PEU, PU, and ATU with BIU, and JR was tested using Chi-square test. A significant relationship is revealed between PEU and JR, specifically regarding the feeling that interacting with the LMS would be clear and understandable (A2) and job relevance, X^2 (4, N=13) = 16.250, p = .003; flexibility of interacting with LMS (A4) and job relevance, X^2 (4, N=13) =15.971, p =.003; and easiness of getting the LMS to do what faculty want to do (A6) and job relevance, X^2 (4, N=13) =15.971, p =.003. Similarly, there is a significant relationship between easiness of learning to operate the LMS (A5), and the intention to use the LMS assuming it was accessible, X^2 (1, N=13) = 6.240, p =.012. See Table 11.

Table 11. Perceived Ease of Use (A1-A7) as it Relates to BIU (D1-D2) and JR (E1-E2)

Items	D 1	D 2	E 1	E 2
Perceived Ease of Use	p-value	p-value	p-value	p-value
A1	.164	.416	.139	.139
A2	.123	.103	.003	.003
A3	.569	.252	.296	.296
A4	.188	.044	.003	.003

A5	.071	.012	.047	.047
A6	.188	.160	.003	.003
A7	.367	.342	.777	.777

Perceived use (B1-B5) and behavioral intention to use (D1-D2) and job relevance (E1-E2)

The relationship between perceived use (B1-B5) and behavioral intention to use (D1-D2) and job relevance (E1-E2) was tested using Chi-square test. A significant relationship is revealed in aspects such as accomplishing tasks using LMS on the job (B1), using LMS to making it easier to do job (B4), and finding LMS useful in the job (B5), as it relates to access and intention to use (D2). The significance was X^2 (2, N=13) = 8.775, p = .012; X^2 (3, N=13) = 9.244, p =.012; and X^2 (2, N=13) =7.367, p = .025, respectively. See Table 12.

Table 12. Perceived Usefulness (B1-B5) as it Relates to BIU (D1-D2) and JR (E1-E2)

Items	D1	D2	E1	E2
Perceived Usefulness	p-value	p-value	p-value	p-value
B1	.532	.012	.346	.346
B2	.719	.044	.234	.234
B3	.419	.229	.343	.343
B4	.419	.026	.091	.091
B5	.532	.025	.111	.111

Attitude towards use in relation to behavioral intentions to use and job relevance was tested and no statistically significant relationship was revealed. See Table 13.

Table 13. Attitude toward Use (C1-C3) in Relation to BIU (D1-D2) and JR (E1-E2)

Items	D1		D2		E1		E2	
ATU	r-value	p-value	r-value	p-value	r-value	p-value	r-value	p-value
C1	.481	.786	.481	.786	5.417	.247	5.417	.247
C2	.090	.764	.012	.913	4.198	.123	4.198	.123
C3	.012	.963	.231	.631	4.550	.103	4.550	.103

Discussion

This project has made a unique contribution to identifying areas to be considered when introducing the innovation to faculty in the nursing department at UCU. Intended to study readiness and acceptance to adopt LMS using TAM, the study has been successful in highlighting factors to take into account. The tool has been utilized in research (Abu-Dalbouh, 2013; Park, 2009; &Saade et al., 2007) and is proving reliable to accurately reflect perceptions of faculty at the study site. The faculty have shown a positive attitude towards accepting to adopt the LMS, and the intention to use it in their job, as it can be noted from both previous users and non-users, by their being positive about becoming skillful in the use of LMS, X^2 (2, N – 13) = 9.479, p = .009). In addition, faculty, regardless of academic rank perceive the ease of interacting with LMS when it is made clear and understandable, which is a positive reflection of readiness to adopt. Although, faculty feel their ability to determine LMS ease of use is limited by their lack of experience, a few, feel there are other factors that are not included in the study. Attitude has been found an influential factor in accepting to adopt new technology (Kowitlawakul, Chan, Pulcini, & Wang, 2015). Gender, age, and experience in higher education have not provided statistically significant relationship with perceived ease of use, though they remain factors to describe the adoption behaviors of faculty in other aspects.

The relationship between gender and perceived usefulness was statistically significant for four constructs, namely; use of LMS to improve the job, enhancing effectiveness, making it easier to do the job and finding it useful. This finding is a further reflection of acceptance and

readiness for faculty to adopt LMS. Learning to operate the UCU eLearning platform will enhance effectives, and strengthen the efficacy of use to improve performance on the job. Academic rank has a significant impact on attitude towards use of LMS. It should be noted, most of the faculty is part time, at the rank of assistant lecturer, and therefore, not readily available. Learning to use the platform will aid in filling the gap.

PEU, PU, and ATU in relation to BUI, and JR

The relationship of PEU with behavioral intentions to adopt LMS, and job relevance yielded significant relationship in only a few constructs. Faculty intend to adopt the LMS when they will find it flexible to use, and does what they want it to do, and because of its relevance in their job. Much as most staff perceived LMS enabling them to accomplish tasks more quickly, there were a few who felt otherwise. This fact may affect one's decision whether to adopt the technology or not. Factors such as enhancing effectiveness, and easier to do the job were found statistically significant with perceived usefulness.

Lesson Learnt

The findings from the study have provided an insight into how to move to proceed with the project. The TAM has proven an invaluable tool in helping understand faculty behavioral intentions to adopting technology into their job. The finding is not different from others performed using a similar model. Though the study has been carried out on a small sample, it is assumed, the results will not alter greatly when conducted on a larger population as reflected in previous studies.

Several issues have risen out of the study that needs to be considered when introducing the LMS. Whereas faculty exhibited a positive attitude towards intentions to adopt the use LMS, there are factors that may impede their willingness to adopt. Most faculty plan to use the LMS in the future as long as they have access to the resource, meaning, the LMS can easily be accessed wherever the faculty is located. Majority deemed the LMS important and relevant in their job, and would find it easier to use if it is clear, and understandable. Bearing in mind this view point, the instructions need to be clear and tailor made for the population of interest during planning and implementation to facilitate adoption. Though findings in the study show most faculty felt their ability to determine LMS ease of use was limited by their lack of experience, a few felt otherwise. This indicates there are other factors besides lack of experience that need to be explores and addressed.

Limitations

The study though successful, it was not without limitations. First, the time frame for the study was very limited. Secondly, the sample size was very small and selected from only one department. In addition, a probability sampling procedure would have yielded a more representative view of the population; however, this was not possible considering the small number of staff in the department. Lastly, the findings cannot be generalized to all teaching staff unless an extensive study is undertaken.

Conclusion

The project has assessed staff technology acceptance behaviors basing on the concepts covered in the three blocks of doctoral study. The concept incorporated in the project are namely; self-efficacy as it relates to use of technology, emerging informatics in healthcare and the focus has been on adopting technology in nursing education as nurses are continually faced with adopting new technologies in their work, and lastly, application of theory into practice using TAM.

The purpose of the study was to use the TAM to assess faculty behavioral intentions to acceptance and adoption of the LMS in the university. Using a quantitative design, the study revealed a positive attitude towards adoption of the LMS in nursing education. Most faculty

perceived the ease of use, and usefulness of LMS and exhibited behavioral intentions to use considering its importance and relevance on the job.

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