Students' Readiness towards Mobile Learning for Higher Education "A Case of Mogadishu University, Somalia"

Mr. Mohamed Hussein Hassan (Eng. Gacal)

Dean and Lecturer, Faculty of Computer Science & IT, Mogadishu University

Email: enggacal.moguniver@gmail.com

ABSTRACT

This research work is focused on discovering opportunities for m-Learning with mobile phones especially in the area of Somalia. The research was conducted in Mogadishu University which is located in Mogadishu, the Capital city of Somalia. Data were collected from students of five faculties, namely the Faculties of Computer Science & Information Technology; Arts and Humanities; Education; Health Sciences; and Engineering, using survey. This research work aims to investigate university students' readiness to utilize mobile learning. About 150 undergraduate students from the above-mentioned faculties of Mogadishu University participated in answering the distributed questionnaire. They were asked about the availability of devices, about their willingness to use m-learning, their expectations of how M-learning would work and their thoughts about the obstacles that might hinder M-learning.

The results were presented using descriptive statistics. The analyses show that the students are mainly positive to the prospective of accessing mobile learning. The attitude differs, relying chiefly upon their previous experience and individual current habits. The study, therefore, concludes that students within the targeted faculties in Mogadishu University had positive perceptions towards mobile learning and are therefore prepared to embrace it.

Key-Words: E-learning, M-learning, Readiness for Mobile Learning, University students' attitude

Introduction

Technology has a fundamental impact on the educational system. Nowadays technology plays a significant role in teaching and learning processes, whether supportive or administrative. Educational technologies have become increasingly important in the higher education environment due to the rapid spread of the internet and personal computers. Computers and the internet are educational tools which offer efficient use of time and ease of access to educational materials for students and teaching staff alike.

E-learning is an approach to facilitate and enhance learning through and based on both computer and communication technology. E-learning is the acquisition and utilization of knowledge disseminated and facilitated primarily by electronic methods. It might incorporate the utilization of web-based teaching resources including websites with discussion boards, collaborative software, e-mail, computer-aided assessment, educational animation, learning management software, multimedia CD-ROMs for offline use and many more, with probably a mixture of different methods being used. In higher education, E-learning aids universities to deliver distance learning programs. It is a structured learning activity, which may happen once learners and instructors are isolated by geographical distance or by time (Haverila and Barkhi, 2009).

E-learning frameworks give students, lecturers and university managers with various services including exam management and student feedback and tracking (Caladine, 2008). Also, students can get services through the Learning Management System (LMS) to register for courses, drop, add and update their profiles (Caladine, 2008). In Somalia, the recent developments and awareness of the local universities on ICT and e-learning have opened an opportunity to adopt e-learning to deliver distance education and new opportunities for those who are willing to

engage in higher education. However, before going to introduce e-learning programs in Somalia, it is suggested to perform enough research on student's access, cost, availability, and speed of internet and other related parameters essential for it (Mohamed, 2017).

M-learning is probably going to become one in all the foremost effective methods for conveying higher education materials in the future (El-Hussein and Cronje, 2010). This is since mobile devices have turned out to be progressively cheaper, effective and straightforward to use that may broaden the advantages of E-learning frameworks by giving university students chances to get to course materials and ICT, learn in a very cooperative environment (Nassuora, 2012). In Somalia, however, m-learning has yet to advance to the point where it tends to be viewed as conventional teaching as well as a learning approach.

According to (Attewell, 2005; Laouris and Eteokleous, 2005; Traxler, 2007). Compared the E-learning and M-learning as follows; in E-learning (Wired, computer or laptop, Any time, Internet and intranet networks, collaborative, distance learning, formal, multimedia, time-delayed – Asynchronous, late communication, scheduled, face-to-face, limit by location and time, late communication, poor due to group consciousness) in M-learning(Wireless, Mobile phone, smartphone and Tablet PC, Anytime, Anywhere, Internet and Mobile networks, Networked-personal and private, situated learning, informal, objects, instant delivery-synchronous, immediate, unprompted, flexible, anytime, anywhere, immediate communication, rich due to one-to-one communication).

Utilizing mobile in learning can improve the educational systems and supply a lot of benefits for the educational environments by conveying the advantage of these innovations to the education environments. The inquiry emerges here; are the technology and also the folks able to move towards mobile learning? One of the key issues that govern the success

of implementing innovation with regards to education is the level of users' readiness towards the adoption of the new technology (Lam et al., 2011).

Conducting students' readiness assessment before implementing M-learning is important as highlighted by Ford and Batchelor (2007), that it is vital for Higher Education institutions to assess the readiness status of students for mobile learning before the implementation of this technology.

Therefore, there is a need to investigate the factors that influence the deployment and adoption of M-learning in the higher education perspective. By recognizing the vital factors that guarantee the successful deployment of M-learning, universities can line up their strategic planning with the requirements of lecturers as well as learners and enrich better policy decisions. Thus, the research questions are set out: *(1) What is the extent of students' readiness for Mobile learning system? (2) What are students' expectations towards mobile learning services and therefore the difficulties that may influence the adoption of this new technology? (3) What are the factors impacting students' acceptance of mobile learning in higher education?*

Method

Research Design

In this research, quantitative research was built as the research strategy. To gather data for the work done during this research, a questionnaire was designed for this research. There have been two forms of the questions: closed-ended questions (merely five-point Likert scale questions), and open-ended questions. A survey technique was utilized to acquire individual attitude, thoughts, facts, and perception. Such quantitative analysis aided the researchers to scientifically examine and discover the students' readiness towards M-learning.

Data Collection Method and Sample Size

A questionnaire was developed to assess the readiness status of the learners towards utilizing mobile learning. The instrument was reformed from Trifonova, Georieva, and Ronchetti (2006). Students were requested to complete a form which contains five sections. The sample size of the study is about150 undergraduate students from various faculties of Mogadishu University participated in answering the distributed questionnaire.

Data Analysis Procedure

For data analyzing, Descriptive statistics were employed in this research to provide a straightforward description of what is appeared by the data exhibited. Mean value and the standard deviations (SD) for all responses were computed. A portion of the outcomes was shown in diagrams to make them simpler to understand and translate. Besides, the outcomes from the open-ended questions were analyzed utilizing thematic analysis.

Results & Discussion

The data were coded and analyzed by using the Statistical Package for Social Science (SPSS) Version as well as Excel. Results are presented here according to the five sections of the questionnaire.

The first section: participants' demographics

The first section gathers data regarding users' demographics; it merely asked quarries about gender, age, and education level. On the gender distribution, 82% of the students are male whereas the remaining 18% are female. A substantial part of the students, of about 83%, were between ages of 18-24 years old, while the ages of 14.7% of students range between 25-29 years old. Regarding the education level of the students, 55.3% of them are 4th years students while the remaining

students are 3rd-year students. Table 4.1 and figure 4. 1 demonstrates a summary of the profile of respondents.

Table 4.1 Summary of a profile of respondents

n=150		
	Gender	
	Frequency	Percent (%)
Male	123	82
Female	27	18
	Age Group	
18-24	125	83.3
25-29	22	14.7
30-34	3	2
	Education Level	
3rd Year	67	44.7
4th Year	83	55.3
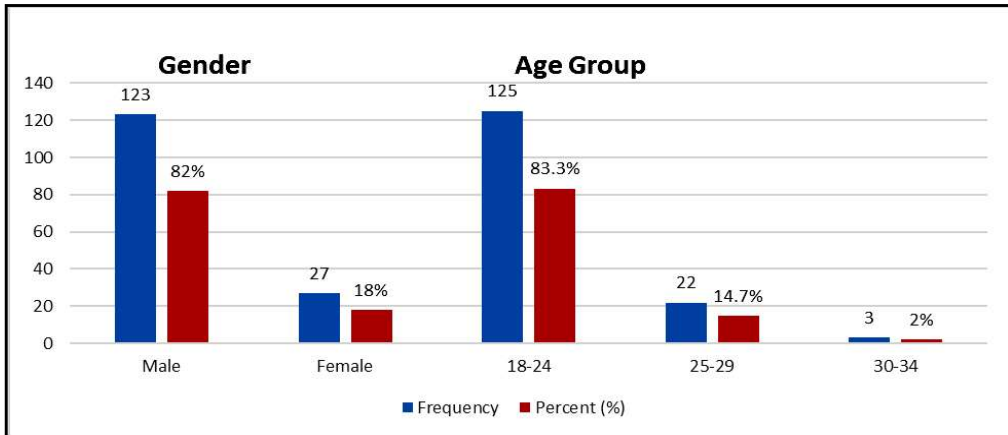
Figure 4.1 profile of respondents

The second section: (13) closed questions about the types of mobile devices, internet usability, cost of accessing the internet and user's expertise and knowledge of mobile technology media.

Figure 4.2 demonstrates that 70% of the respondents' smartphones with advanced computing ability and connectivity; 20% of the students owned a Tablet PC while the remaining 10% own classical mobile phone for calls and texts.
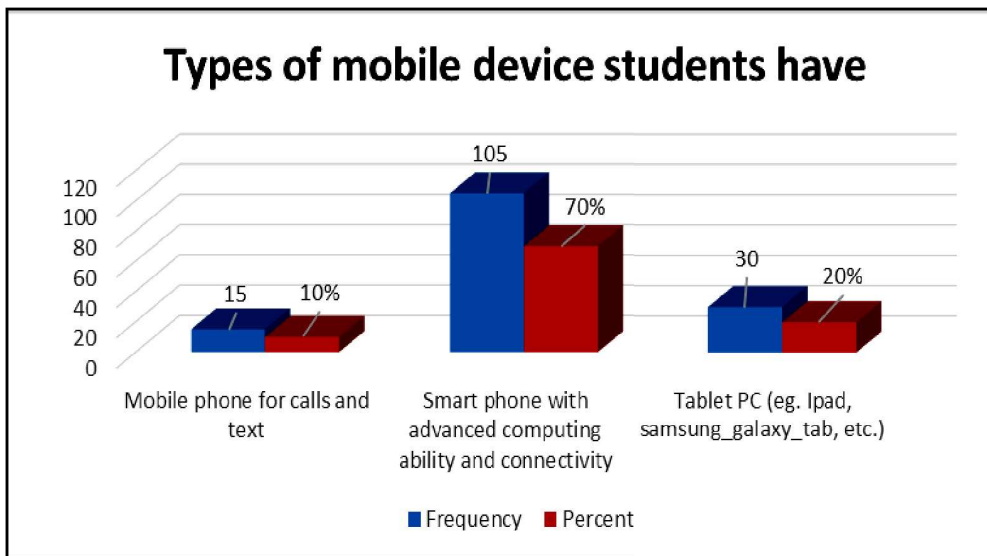

Figure 4.2 Types of mobile devices students have

The study additionally investigated how students access the internet and where to discover how this could influence the implementation of Mobile learning. About 86% of the students access daily the internet through their mobile devices, while 8% of the students accessed the internet from their mobile devices every week (Figure 4.3). It was likewise discovered that 88% of the students accessed the internet outside the University in various locations, for example, at home, in the public library, and at internet cafés. Around 78.7% of the students got to the web utilizing the campus wireless network.
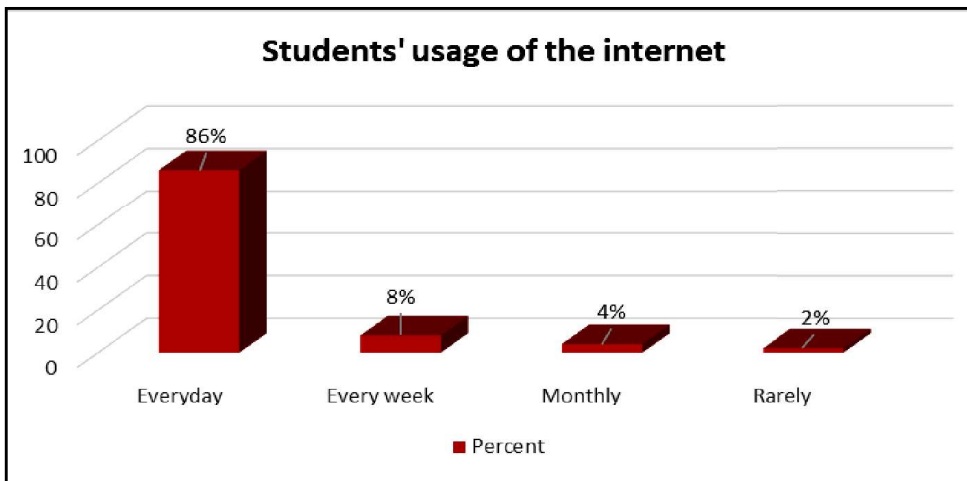
Figure 4.3 Students usage of the internet
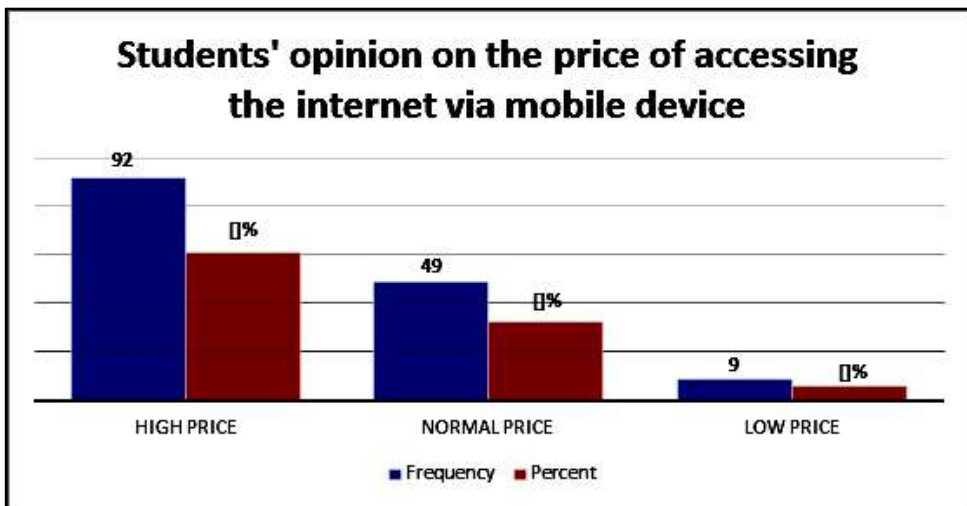
**Figure 4.4 students' opinions about Internet price**

The outcomes demonstrated that 92.7% of the students pay money to access the internet. Considering the students' opinions about price, 61.3% assume it is a high price, while 32.7% of the students considered it a normal price, whereas 6% trusted it is a low price to pay for internet access (Figure 4.4). The data additionally show that a 36.7% of the students used an E-Learning platform (Learning Management systems (LMS), Content management systems (CMS)) like Fedena, Moodle, etc. to learn courses. In contrast to this, using mobile devices in learning, a higher percentage of the participants 90.7% access education applications on their mobile devices.

A majority of the students (77.3%) showed that it was valuable to access course lectures on-line utilizing cell phones, as the lectures are available anytime, anywhere. Table 4.2 demonstrates the percentage of students who use PCs and cell phones for learning. It is also worth mentioning that more than half of the students (61.3%) participating in this study had heard about mobile learning, or knew what it was.

Table 4.2: Students' Usage of Computers and Mobile Devices for Learning

Students' usage of educational mobile applications, E-learning Platforms, and their usefulness		
	Yes	No
Used any educational application on a mobile device (e.g. dropbox for docs storage, YouTube for videos, virtual labs, etc.)	136 (90.7%)	14 (9.3%)
Think it is useful to access online courses lectures using a mobile device	116 (77.3%)	34 (22.7%)
Use E-Learning platform to learn courses (e.g. Fedena, Moodle, etc.)	55 (36.7%)	95 (63.3%)
Heard about Mobile Learning (M-Learning)	92 (61.3%)	58 (38.7%)

However, in spite of this, the bulk of the responses to the question "what is your opinion of M-learning?" were positive; 81.3% of the students said that M-learning is a good idea and they would like to use it, whereas 9.3% think it is a good idea but they would not like to use it. 6% of the students do not think it is a good idea, and the rest of the students 3.4% have no real opinion on this. Figure 4.5 shows the students' opinion about M-learning.
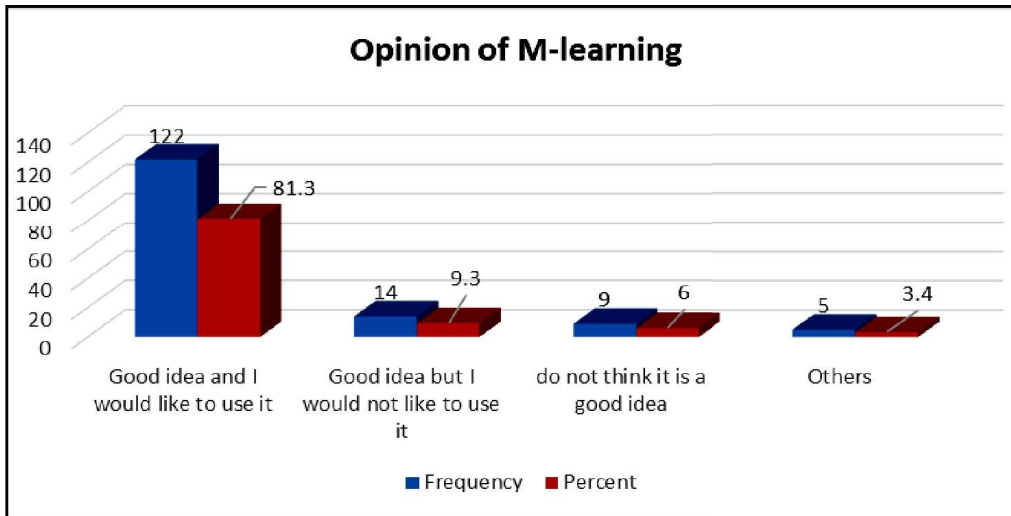
Figure 4.5: Students' Opinion about M-learning

The third section: (11) statements to evaluate students' attitudes towards M-learning

Table 4.3 shows the mean responses of each of the 11 subjects and their associated standard deviation (SD). Students responded to a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) for the positive statements and from 5 (strongly disagree) to 1 (strongly agree) for the negative statements.

Table 4.3 students' attitudes towards M-learning

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD
1. I feel I am not capable of using mobile technology applications	1	5	34	45	65	4.12	0.919
2. I need the training to understand how to use a new mobile application	4	5	21	46	74	4.21	0.985
3. I believe that using a mobile device to learn courses will increase the flexibility to learn inside and outside the classroom	78	47	12	8	5	4.23	1.032
4. I believe implementing and using M-Learning as part of teaching and Learning courses will make the educational process easier and more enjoyable	66	55	22	6	1	4.19	0.880
5. I think that using M-learning will help me to get good grades	48	67	26	7	2	4.01	0.897
6. I believe that implementing M-Learning In the educational process will increase communication between teachers and students	92	44	10	4	0	4.49	0.740
7. Implementing M-Learning will enable me to have independent learning	46	76	16	12	0	4.04	0.858

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD
8. I think that M-Learning will improve the quality of the curriculum	38	85	18	8	1	4.01	0.807
9. It is not easy to find a hot spot (wireless) to connect to the internet on your mobile phone or laptop	5	32	24	54	35	3.55	1.162
10. I do not think there is enough technical support to implement M-learning	8	46	25	61	10	3.13	1.089
11. I believe that implementing M- learning is a complicated process	1	5	15	65	64	4.24	0.817

The first two questions examine the students' abilities **for using M-learning**. The primary question inquired students as to whether they are not capable of using mobile technology application. The mean of the responses was 4.12, which is situated inside the region "Disagree" and "Strongly Disagree". The second question posed to the students if they require training to understand how to use the new mobile application. The mean score of the responses was 4.21 that is found within the area "Disagree" and "Strongly Disagree". The outcomes from these two questions show that students can use mobile applications in their learning.

The next set of questions (3-8) were intended to measure students' attitude towards the advantages of using M-learning for learning

undergraduate courses. Question 3 asked if M-learning will increase flexibility in the learning progression. The mean was 4.23, which is located within the area "Agree" and "Strongly Agree". Then for the 4th question, the participants were asked if M-learning would make the educational process easier and enjoyable. The mean of the result was 4.19, which is again located between "Agree" and "Strongly Agree". The fifth question asked if M-learning would help students to get a good score. The mean score was 4.01, which is also located in the same area.

Question six examined if M-learning would increase communication among lecturers and students. The mean score was 4.49, which is a strong positive response demonstrating that students can realize the benefits of M-learning in this respect. The seventh question asked if M-learning would improve independent learning. The mean score response to this question was 4.04, which is approximately equal to "Agree". The eighth question was designed to find out if students thought to if M-learning would improve the quality of the curriculum. The mean score of the responses for this question was 4.01, which is likewise situated in a similar area of "Agree".

The last part of the section was designed to gather information on students' perception of the challenges of implementing M-learning. Question nine asked how easy it was to find hot spots to connect to the internet. The mean responses were 3.55, between "Neutral" and "Disagree". This suggests that students found it easy to connect a mobile device to the internet. The mean score for the next question 10 ("I do not think there is enough technical support to implement M-learning") was 3.13, which is close to "Neutral". The last question was designed to find out students' opinion of implementing M-learning. The mean score for this question was 4.24, which suggests that students disagree with the idea that M-learning is a complicated process.

Finally, the standard deviations of the questions in Table 4.3 range between 0.740 and 1.162, indicating that students' answers are similar.

The fourth section: classifying a list of services of M-learning in terms of their helpfulness for learning.

To determine the preference for mobile services, students got a listing of expected services and they had to decide how they sensed regarding the usefulness of each one for learning courses. Table 4.4 demonstrates that a high percentage of students expected M-learning to be useful for accessing educational content online (88%) and offline (78%). It can also be seen that a reasonable positive weight (73.3%) was given to accessing supporting educational information via the World Wide Web. In contrast, receiving supporting educational information via SMS/MMS had a neutral response that is slightly greater than half (54%) of the students. The percentages for the latter two services of collaborating with instructors as well as with other students indicate nearly similar percentages of 68% and 68.7% for their users which is also positive.

Table 4.4 Students' Preference for M-learning Services

#	Types of Mobile learning services	Useful	Neutral	Not useful
1	To access educational content online	132(88%)	12 (8%)	6 (4%)
2	To access educational content offline	117(78%)	22(14.7%)	11(7.3%)
3	To access supporting educational information via WWW	110(73.3%)	38(25.3%)	2(1.3%)
4	To receive supporting educational information via SMS/MMS	81(54%)	57(38%)	12(8%)
5	To collaborate with other students	102(68%)	45(30%)	3(2%)
6	To collaborate with instructors	103(68.7%)	42(28%)	5(3.3%)

The fifth section: (2) open-ended questions about challenges of Mobile learning

Students were asked the following question: "in your opinion, what are the challenges that might face implementing M-learning in your department?" In response to this question, students highlighted the following challenges of implementing M-learning:

- The higher cost of mobile internet charges

- The higher cost of smartphone repairing

- Security issues due to targeting high-quality smartphones, reducing anywhere use the feature

- Educational institutions need to have instructional units developed to assist learners in preparing for M-learning

- M-learning might affect lecture attendance of lazy or busy students

- Small screens of mobile phones
- Limited storage capacities of mobile phones

Finally, at the end of the questionnaire students were asked to describe how they imagined M-learning system would work. Following are there answers:

- Students expected that mobile learning will play an important role in learning and will add value to learning in the future.
- Students expected to have online access to more digital learning materials that are simple, useful, diverse and attractive.
- Students expected to have increased interaction with instructors

In summary, the outcomes got from this investigation show that most of the students own smartphones with advanced computing and connectivity to the internet and would like to use this technology within the near future, a few students have normal mobile phones. Students do

access the internet utilizing their smart cell phones inside and outside the campus regularly and their thoughts concerning the cost of accessing the internet tell that they think that the price was costly for accessing m-learning educational services. Challenges they highlighted also include the security issues due to the higher cost of smartphones, as well as higher cost of repairing them.

Besides, students expected M-learning to offer them extra lecture resource to empower them to study while they are voyaging or far from the university campus, and it will not replace the conventional leaning process. Be that as it may, it will improve the communication between the students and their lecturers. Students likewise expect educational institutions to give additional consideration in terms of technical support and infrastructure preparation guarantee an effective implementation of M-learning. They also suggest the establishment of effective instructional units to assist students in making ready for M-learning

Conclusion and Recommendations

The purpose of this research work was to investigate university students' readiness to utilize mobile learning in their undergraduate studies. It additionally endeavored to recognize the factors that affect the implementation of this mobile technology in learning and educating at the undergraduate level.

The results uncovered that the majority of students would like to use this technology within the future and they do access the internet via their smartphones inside and outside the campus often. Their attitude differs, relying mainly on their previous expertise and current habits. Consequently, students and lecturers would possibly benefit of M-learning sooner rather than later if the universities deploy effective procedures that increase students' awareness of M-learning and overcome the challenges recognized. It is recommended that enough

technical support and infrastructure be established in university campuses to help students' learning via their smartphones. Moreover, a sequence of training courses ought to be organized for the instructors to integrate them in M-learning administration.

Besides these, the tests of readiness of using mobile in learning are viewed from the readiness of teachers and students in using mobile in learning as well as the availability and the capability of the technologies in implementing educational processing (readiness of the hardware and the software). Mobile operational readiness refers to students' awareness of, attitude towards, support and training that is needed for mobile learning which was the focus of this research. Therefore the researcher recommends researches to be carried out for the remaining areas of teachers'' m-learning readiness and the availability and the capability of the technologies.

Contributions to theory

The paper began with the following questions: (1) What is the extent of students' readiness for Mobile learning system? (2) What are students' expectations towards mobile learning services and therefore the difficulties that may influence the adoption of this new technology? (3) What are the factors impacting students' acceptance of mobile learning in higher education?

The findings of this research will be of interest of educators and university managers concerned with the adoption and deployment of Mobile learning in higher education. The outcomes of this research might also be useful to educational planners who are in charge of designing university courses. This study will assist the Higher Education Institution's prepare mobile learning programs that consider their students' level of technology and operational readiness into account.

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