SMART

Journal of Business Management Studies

(A Professional, Refereed, International and Indexed Journal)

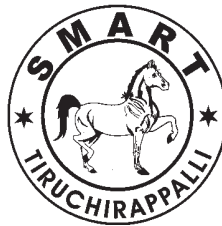Professor **MURUGESAN SELVAM**, M.Com, MBA, Ph.D, D.Litt

Founder - Publisher and Chief Editor

SCIENTIFIC MANAGEMENT AND ADVANCED RESEARCH TRUST (SMART)

TIRUCHIRAPPALLI (INDIA)

www.smartjournalbms.org

USING M-LEARNING, DURING THE QUARANTINE PERIOD, TO PREVENT SPREAD OF THE COVID-19 EPIDEMIC, AMONG SAUDI STUDENTS: THE CASE OF NORTHERN BORDER UNIVERSITY

Bilal LOUAIL*
Faculty of Economic, Commercial and Management Sciences,
University of M'Hamed BOUGARA Boumerdes, Algeria.
louailbilal2@gmail.com

Siham RIACHE
Faculty of Economic, Commercial and Management Sciences,
University of M'Hamed BOUGARA Boumerdes, Algeria.
riachesiham@yahoo.fr

and

Djamel BENAROUS
Faculty of Economic, Commercial and Management Sciences,
University of Batna 1, Algeria.
djamel.benarous@univ-batna.dz

Abstract

This study aims to assess, the extent to which students at Northern Frontier University, accept learning by phone during quarantine, to reduce the spread of the Coronavirus. Results of unified theory of acceptance and use of technology model (UTAUT model), indicated that performance expectancy, effort expectancy, social influence, perceived playfulness and self-management of learning, were all significant determinants of behavioural intention to use m-learning. Age differences did not moderate the effects of effort expectancy and social influence on m-learning use intention, nor gender differences moderated the effects of social influence and self-management of learning on m-learning use intention. The small screen size and difficulty of typing on a mobile keyboard are among the most important difficulties of m-learning. These findings revealed that decision-makers, in the higher education sector, could use mobile learning to develop distance learning, especially in supplementary programs.

Keywords: UTAUT Model, IT use, M-Learning, COVID-19, and Quarantine.

JEL Code : C38, M15, I28, I10, and I18.

* **Corresponding Author**

1. Introduction

The use of Information and Communications Technology (ICT) improves learning, especially if strict instructions for its application were to accompany it. It has also been aided by recent technological transformations, which have resulted in improving the speed of the flow of the internet. Moreover, the emergence of portable smart devices has resulted in distance learning becoming more wide spread, following the development of learning via the internet. Mobile learning (m-learning) has now revolutionized the field of information and communications technology due to the ease of use of a mobile phone compared to a laptop **(Liu** and **Chen, 2008).** Education has previously relied on the use of phones for learning in a group of universities, especially in their professional programs in which the duration of study was short. According to **Venkatesh et al. (2003),** it has proved useful for corporate employees due to the time requirement and difficulty of going to the university to receive lessons, as well as in language schools. In order to facilitate the entry of students and the completion of homework and use, and at the same time, reduce travel requirements, this technology synchronises with distance education. The Kingdom of Saudi Arabia has advanced the field of distance education and some universities have adopted distance learning programs so that students can complete all lectures remotely, as well as taking all tests online. Recently, with the emergence of the Coronavirus pandemic (COVID-19), the Ministry of Education in the Kingdom of Saudi Arabia announced, in cooperation with higher authorities, a decision to suspend studies in all schools and educational institutions, including private and public universities and colleges. This also included both the educational body and the administrative body, as part of the preventive measures taken against the pandemic. The Ministry of Education directed all educational institutions to activate the distance education model, during the period of the suspension of study, so that continuation of the educational process could be maintained through electronic teaching methods provided by the Ministry, as an effective alternative to the usual educational process.

2. Review of the Literature

Venkatesh et al. 2003, formulated the technology acceptance model, called the 'User Acceptance of Information Technology'. It is intended to explain the user's intentions to use the information system, and the behavior related to subsequent use. This theory states that there are four basic structures: performance expectation, effort expectation, social impact and facilitation conditions. The first three are the direct determinants of the intent and behavior of the use, and the fourth is directly defined by the user's behavior. The theory assumes that gender, age, experience, and voluntary use, could mitigate the impact of the four critical combinations on employment and work intent. The theory was developed by reviewing and standardizing the structures of eight models, used to explain the behavior, related to using information systems (logical procedure theory, technology acceptance model, motivational model, planned behavior method (a common approach from the proposal for the behavior acceptance model/technology), the model of PC use, the theory of propagating innovations, and social cognitive theory). Verification was provided from UTAUT in a longitudinal study, where it was found to represent 70% of the variation in the behavioral intent of use (BI) and about 50% of the actual use. The study was followed by a report

by **Wang et al. 2009**, in which they developed a model wherein mobile phones were used as a means of distance learning, focusing on age and gender differences in the acceptance of m-learning. The results of their study confirmed that performance expectancy, effort expectancy, social influence, perceived playfulness, and self-management of learning were all significant determinants of behavioural intention to use m-learning. The study concluded that age differences did moderate the effects of effort expectancy and social influence on m-learning use intention, and that gender differences moderated the effects of social influence and self-management of learning on m-learning use intention.

The study by **Thomas (2013),** compared the utility of modified versions of the unified theory of acceptance and use of technology (UTAUT) model, in explaining the mobile learning adoption in higher education in a developing country, and evaluated the size and direction of the impact of the UTAUT factors on behavioural intention to adopt mobile learning in higher education. Moreover, the results of this study suggested that culture and country-level differences moderate the UTAUT effects and hence a straightforward application of the model, regardless of the context, can lead to non-detection of important relationships, and suboptimal mobile learning promotion strategies. This includes attitude in the model, which is also a prudent modification since it increases its explanatory power. In East Africa, **Mtebe** and **Raisamo, 2014** used the UTAUT model for students of five higher learning institutions.The results showed that four factors—performance expectancy, effort expectancy, social influence, and facilitating conditions—had significant positive impact on students' mobile learning acceptance, with performance expectancy being the strongest predictor. **Chao (2019)** developed and empirically tested model to predict the factors affecting students' behavioral intentions toward using mobile learning (m-learning), and found the behavioral intention was to be significantly and positively influenced by satisfaction, trust, performance expectancy, and effort expectancy, Further, perceived enjoyment, performance expectancy, and effort expectancy had reported positive association with behavioral intention, and on top of this, mobile self-efficacy recorded significantly positive effect on perceived enjoyment. Finally, perceived risk had reported significantly negative moderating effect on the relationship between performance expectancy and behavioral intention. **Kallaya** and **Kittima, 2009** investigated the acceptance level of students of m-learning, and found it to be at a high level. Similar results were found in studies by **Gaffar (2013).**

For Arab countries, a study by **Mohammad** and **Musaed, 2016** found that majority of Gulf Cooperation Council (GCC) countries were lagging and they faced diversified challenges in adopting m-learning. Thus, investigating learners' readiness to adopt m-learning in higher education institutions, in the context of the GCC, was the focus of this study. Moreover, in Arabia Saudia, **Al-Hujran et al. (2014)** carried out a study examining the main factors affecting the adoption intention of mobile learning (m-learning), based on the Unified Theory of Acceptance and Use of Technology (UTAUT), given the significance and power of such a theory in the field of Information Systems (IS). The results showed that facilitating conditions had reported no significant effect on the intention to use m-learning. Further, the findings showed that the developed model could explain 62.4% of the variance in the adoption intention to use m-learning.

3. Statement of the Problem

After the emergence of Corona virus cases, many countries found themselves confronted with the virus and Saudi Arabia is one of those countries, that entered into a quarantine, that resulted in the suspension of the study, which opened the way for e-learning. Hence, this study examined the extent to which students of Northern Border University in Saudi Arabia accepted m-learning, during the quarantine period, to prevent the spread of Corona virus.

4. Need of the Study

The importance of this study lies in understanding the extent to which students would accept the use of mobile learning. This could support its provision to all segments of society, as mobile phones are now widely available. Therefore, the results of this study are essential for all members of society, who are interested in education and may contribute to the development of educational technology via mobile phones.

5. Objectives of the Study

The main objective of the present study was to examine the acceptance among students of Northern Border University of m-learning, during quarantine related to the epidemic of COVID 19.

6. Hypotheses of the Study

H-1: Performance expectancy, effort expectancy, social inûuence, perceived playfulness, and self-management of learning are significantly associated with the behavioral intention to use m-learning.

H-2: Gender does affect the behavioral intention to use m-learning.

H-3: Age does affect the behavioral intention to use m-learning.

7. Research Methodology

7.1. Sample Selection

The sample included approved students of Northern Border University in Arabia Saudia.

7.2. Sources of Data

A total of 350 students responded to the questionnaire, prepared by the researchers,to test the hypotheses, based on the UTAUT model.

7.3. Period of the Study

The quarantine period, used to prevent the outbreak of COVID-19, in Saudia Arabia.

7.4. Tools Used in the Study

This study was based on the unified theory of acceptance and use of technology model (UTAUT model), to investigate the determinants of m-learning acceptance and to discover if there were either age or gender differences, in the acceptance of m-learning, for students of Arabia Saudia.

8.Data Analysis and Interpretation

8.1. Measures

A questionnaire was distributed to students of the Northern Border University in the Kingdom of Saudi Arabia(including 120 male and 230 female students). The questions were grouped, as shown in **Figure-1**: Performance Expected (PE), Effort Expected (EE), Social Impact (SI), Perceived Playfulness (PP) and Self-Management of Learning. The questionnaire used Likert Scale (1–5), with responses ranging from "Strongly Agree" to "Strongly Disagree".

8.2. Descriptive Analysis for Characteristics of the respondents

The questionnaire was distributed to a group of students, and answers were received from 303 of them. A total of 85% used their mobile phone to learn during the quarantine period. The results are shown in **Table-1**.

8.3. Measurement Model Analysis

8.3.1. Reliability and Validity Analysis of Measures

Cronbach's Alpha coefficient was used to test the internal consistency of each construct. Alpha Cronbach values were above the recommended 0.60 threshold **(Bagozzi and Yi, 1988; Fornell and Lacrker, 1981)** and ranged from 0.66 to 0.94 for all constructs, as shown in **Table-2**, lending support to the internal consistency of the elements of each underlying construction.In this study, the Cronbach's Alpha statistic was 0.936 (<0.94) and this means that data were acceptable and reliable.

8.3.2. Statistics Description of the Model

Data were acceptable for all study variables, as shown in **Table 3**, which also displays Moyenne and Standard deviation, for each variable.After collecting and arranging the data, each group was combined into one variable, to control the study variables, where we had ten variables, including necessary variables that were, directly and indirectly, affected. The results are shown in **Table-4**. According to **Table-5**, which represents the correlation matrix between variables, there was no correlation between the variables of the model.This increased the accuracy of the model, which employed the best linear unbiased estimators.

8.4 Goodness of Fit Test Results

The goodness of fit (GOF) indices, for the measurement models for all constructs, are shown in **Table-6.** Several (GOF) indices were used to assess the confirmatory factor analyses and structural equation models. The following indices were selected, based on **MAMECHE et al. 2020**: RMSEA (Root Mean Square of Error Approximation), NCP (an estimate of the decentralization parameter), CMIN/DF (the minimum discrepancy divided by its degrees of freedom), FMIN (the minimum value, F, of the discrepancy), AIC, and ECVI (consistent AIC), **Bozdogan, 1987.**

8.5 Results and Tests of Hypotheses

The UTAUT model was used, approved by **Venkatesh et al., 2003,**with some adjustments to make it compatible with this study,to examine the extent of the acceptance among students in the Northern Border University of mobile phone learning, The indicators, included in the original form, were adopted. The results showed positive and moral effect for expected performance, expected effort, social inûuence, and perceived playfulness on the behavioral intention for using mobile phones in learning. This was consistent with **Wang et al., 2009 and Hoi, 2020**. The self-management in learning variable reduced the behavioral intention to use a mobile phone in learning, contrary to expectations and inconsistent with the study of **Wang et al., 2009.** Hence **H-1: The performance expectancy, effort expectancy, social influence, perceived playfulness, and self-management of learning will be significantly associated with the behavioral intention to use m-learning**, was accepted **(Figure 2)**.

In addition to a difference in the use of mobile phone learning between the sexes, as the model was better suited for females than males, when were excluded males, the study found that the study variables explained 71.5% of the behavioral intention to use mobile phones in learning. In contrast, if females were excluded, it was found that the study variables explained 84% of the behavioral intention to use mobile phones in learning. Tracking coefficients for expected performance, the study found that expected effort, social influence, and perceived playfulness were critical for the male class on the one side, and the female class on the other

hand. At the same time, self-management in learning was unimportant to both, which was consistent with **Hilao and Wichadee, 2017** and hence **H-2:Gender will affect the behavioral intention to use m-learning**, was supported (**Figure 3**).

Regarding the age of students, difference was observed between the age groups. The best category for the model was between the ages of 20 and 22, since the study variables explained 84.7% of the behavioral intention to use mobile phones in learning, followed by the group of over 22 years, at 77.9%. For the group between the ages of 18 and 20 years, the study variables explained 76% of the variation in the behavioral intention to use mobile phones in learning while it was 72% for the group under the age of 18 (**Table-7**). The study demonstrated that the path parameters for expected performance, expected effort, social influence, and enjoyment during learning were critical for all four age groups. On the other hand, self-management in learning was unimportant to all groups and hence, **H-3: Age will affect the behavioral intention to use m-learning**, was not rejected.(**Figure-4**).

8.6 Discussion

This paper conducted a pilot evaluation of the extent of acceptance of m-learning, with students from Northern Border University and a hypothetical model was developed by including 24 comprehensive indicators, that were assigned to five critical indicators. The measurement model was tested experimentally by SEM, using data gathered from 350 students in different disciplines. The results yielded sufficient evidence of student acceptance of mobile learning, based on the following five indicators: expected performance, expected effort, social influence, enjoyment during learning, and self-management (**Table-8**). The results of this study indicated that there was positive and moral

effect of expected performance, expected effort, social influence, and enjoyment during education, on behavioral intention, which was consistent with **Wang et al., 2009**. A negative effect was also found for self-learning, contrary to expectations, which was inconsistent with **Wang et al., 2009**. The study found that the effects of social and fun dimensions on behavioral intention were significant. However, no gender or age differences were found, indicating that the average performance of the social and fun dimensions influenced the intention to use mobile learning more than the weak social dimension and conceptual perception. More importantly, the results revealed that there were some significant differences between sexes and age groups, in terms of the effects of determinants on behavioral intent. Firstly, students in the 20-22 year old age group, whether male or female, were more receptive to learning via mobile phones than other groups. This group was mostly in more advanced stages of their studies (about to graduate), which increased their eagerness to learn in different ways, in preparation for obtaining jobs after graduation. Students, who were more advanced in their studies, also preferred to learn via their mobile phones also because of the ease of doing so, given that a large number of them were housewives, aspiring to continue their learning without neglecting their families, in addition to improving their chances of employment in the Kingdom of Saudi Arabia since the Government now supports the empowerment of women.

Second, it was an unexpected and exciting result of this study that the effect of mobile self-learning on behavioral intent was noticeable for male students but not female students, which was inconsistent with the findings of a previous study (**Venkatesh and Morris, 2000; Venkatesh, 2000**). Typically, women would be more interested in self-learning than men, especially

mobile learning, and hence this finding requires future research. It was also unexpectedly found that self-management of learning was a more potent determining factor in women's intent compared to men's intent, contrary to the view suggested by **Beck (1983),** that men were more likely to be subjected to self-learning than women. Finally, the finding that self-learning among younger students was higher than among the older students, was also unexpected, and contrary to what **Wang et al., (2009)** had concluded. The study found that more young people used to mobile phones, and therefore, found it easier to use them to learn.

9. Findings of the Study

The results of this study indicated that there was positive and moral effect of expected performance, expected effort, social dimension, and enjoyment during education, on behavioural intention and negative effect of self-learning on behavioural intention, contrary to what was expected. Moreover, the effects of social and fun dimension on the behavioural intention were noticeable. It found that there was no correlation between the variables of the model, this increased the accuracy of the model, which employed the best linear unbiased estimators. However, no gender or age differences were found, and it implied that the average performance of the social and fun dimension towards the use of mobile learning generated higher intention to use mobile learning than those with weak social dimension and conceptual perception.

10. Suggestions

The results of this study indicated that there was positive and moral effect of expected performance, expected effort, social impact, and enjoyment during education on behavioral intention and negative effect of self-learning on behavioral intention, contrary to expectations.

Moreover, the effects of social and fun dimensionson on behavioral intention were significant,but no gender or age difference was found. The small screen and difficulty of using the mobile keyboard were among the biggest obstacles, preventing the development of mobile phone learning. The use of a mobile phone to learn under certain conditions, such as quarantine, is a new circumstance and the understanding of which could improve the field of mobile phone learning in the future.

11. Conclusion

The results of this study indicated that there was positive and moral effect of expected performance, expected effort, social dimension, and enjoyment during education on behavioral intention, and negative effect of self-learning on behavioral intention, contrary to what was expected. Moreover, the effects of social and fun dimension perceived on the behavioral intention were noticeable, but no gender and age difference was found(**Abu-Al-Aish, & Love 2013, Ali& Arshad. 2016**).Education via a mobile phone faces difficulties in that the mobile phone screen is relatively small, which makes it difficult for users to focus for a long time. Using a mobile phone keyboard is difficult and impractical, compared to using a computer (**Chao, 2019;Mtebeand Raisamo, 2014; Hashim et al. 2015**).

12. Limitations of the Study

Developers of a mobile learning system must improve the ease of use of the user interface through the use of touch screen, the introduction of open data, handwriting recognition, and even voice recognition. This would support people to understand the learning system and encourage their future adoption. They must also provide a distinct level of the education system over the phone to match its output, providing content that meets the needs

of the users and designing it in a way that is easy to use. In addition, stimulating environment must be created, to encourage cooperation between researchers in the field of distance learning and the teachers and developers, using the technology, to improve and develop it further.

13. Scope for Further Research

In the light of the above limitations, this study paves the way for many future research trends. If the study were to be conducted among a group of countries, such as Arab countries or the GCC countries, the results would be different and more comprehensive.It would also be useful for the study to consider complementary courses, such as language learning or other skill learning.

14. References

Abu-Al-Aish, A., & Love, S. (2013). Factors influencing students' acceptance of m-learning: An investigation in higher education. *International Review of Research in Open and Distributed Learning,* 14(5), 82-107. https://doi.org/10.19173/irrodl.v14i5.1631

Al-Hujran, O., Al-Lozi, E., & Al-Debei, M. M. (2014). Get Ready to Mobile Learning: Examining Factors Affecting College Students' Behavioral Intentions to Use M-Learning in Saudi Arabia, *Jordan Journal of Business Administration,* 153(3301), 1-18. DOI: 10.12816/0026186.

Ali, R. A., & Arshad, M. R. M. (2016). Perspectives of students' behaviour towards mobile learning (M-learning) in Egypt: an extension of the UTAUT model. *Engineering, Technology &Applied Science Research,* 6(4), 1109-1114.

Beck, A. T. (1983). Cognitive therapy of depression: New perspectives. Treatment of depression: Old controversies and new approaches.

Bozdogan, H. (1987). Model selection and Akaike's information criterion (AIC): The general theory and its analytical extensions. *Psychometrika,* 52(3), 345-370. DOI: https://doi.org/10.1007/BF02294361

Chao, C. M. (2019). Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model. *Frontiers in psychology,* 10, 1652. https://doi.org/10.3389/fpsyg.2019.01652

Fornell, C.&Lacrker D. F. (1981). Evaluating structural equation models with unobservable and measurement errors. *Journal of Marketing Research,* Vol. 18(1), 39-50. https://doi.org/10.1177/002224378101800104

Hashim, K. F., Tan, F. B., & Rashid, A. (2015). Adult learners' intention to adopt mobile learning: A motivational perspective. *British Journal of Educational Technology,* 46(2), 381-390. https://doi.org/10.1111/bjet.12148

Hilao, M. P., & Wichadee, S. (2017). Gender differences in mobile phone usage for language learning, attitude, and performance. *Turkish Online Journal of Distance Education,* 18(2), 68-79. https://files.eric.ed.gov/fulltext/EJ1145218.pdf

Hoi, V. N. (2020). Understanding higher education learners' acceptance and use of mobile devices for language learning: A Rasch-based path modelling approach. *Computers & Education,* 146, 103761. https://doi.org/10.1016/j.compedu.2019.103761

Kallaya, J., Prasong, P., & Kittima, M. (2009). Acceptance of mobile learning for higher education students in Thailand. http://cmruir.cmru.ac.th/handle/123456789/416.

Lam, C. T., Ke, W., Im, S. K., Gomes, A., Mendes, A. J., & Marcelino, M. J. (2019).

Students' characteristics in programming learning and the design of a mobile learning platform. *International Journal of Mobile Learning and Organisation,* 13(4), 352-391.

Li, K. C., Lee, L. Y. K., Wong, S. L., Yau, I. S. Y., & Wong, B. T. M. (2019). The effects of mobile learning for nursing students: an integrative evaluation of learning process, learning motivation, and study performance. *International Journal of Mobile Learning and Organisation,* 13(1), 51-67.

Liu, Y., & Chen, N. S. (2008). An adoption model for mobile learning. In Proceeding for the IADIS international Conference e-Commerce (pp. 251-256).

Louail, B., & Riache, S. (2019). Asymmetry relationship between economic growth and unemployment rates in the Saudi economy: Application of Okun's law during the period 1991–2017. *International Journal of Advanced and Applied Sciences,* 6(10), 83-88. https://doi.org/10.21833/ijaas.2019.10.013

Mameche, Y., Omri, M. A., &Hassine, N. (2020). Compliance of Accounting Education Programs with International Accounting Education Standards: The Case of IES 3 in Tunisia. *Eurasian Journal of Educational Research,* 20(85), 225-246. https:// files.eric.ed.gov/fulltext/EJ1242452.pdf

Mohammad Shorfuzzaman, Musaed Alhussein (2016), Modeling Learners' Readiness to Adopt Mobile Learning: A Perspective from a GCC Higher Education Institution, Mobile Information Systems, vol. 2016, https:// doi.org/10.1155/2016/6982824

Mtebe, J., & Raisamo, R. (2014). Investigating students' behavioral intention to adopt and use mobile learning in higher education in East Africa. *International Journal of Education and Development using ICT,* 10(3).

Thomas, T., Singh, L., & Gaffar, K. (2013). The utility of the UTAUT model in explaining mobile learning adoption in higher education in Guyana. *International Journal of Education and Development using ICT,* 9(3). https://www.learntechlib.org/p/130274/.

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information systems research,* 11(4), 342-365. https://doi.org/ 10.1287/isre.11.4.342.11872

Venkatesh, V., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behaviour. *MIS quarterly,* 115-139. DOI: 10.2307/ 3250981

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly,* 425-478. DOI: 10.2307/ 30036540

Wang, Y. S., Wu, M. C., & Wang, H. Y. (2009). Investigating the determinants and age and gender differences in the acceptance of mobile learning. *British journal of educational technology,* 40(1), 92-118.https:/ /doi.org/10.1111/j.1467-8535.2007.00809.x

Figure-1. Modified UTAUT Model for M-Learning
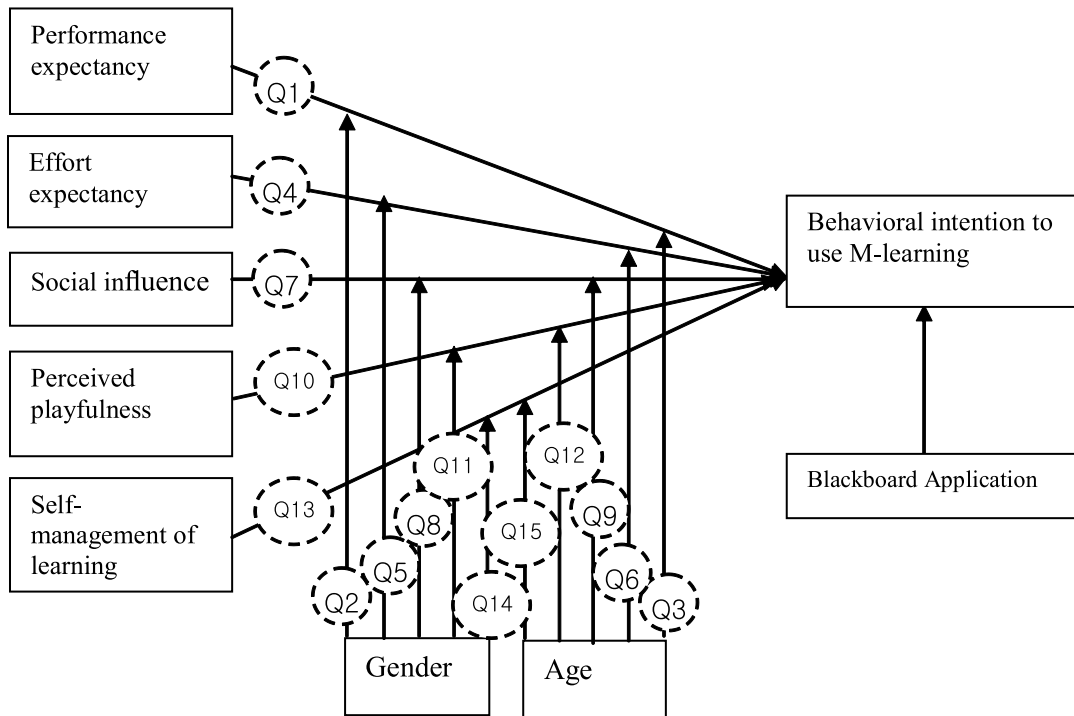
Source: Primary Data computed using SPSS AMOS.

Figure-2. Standardised Path Coefficients for all Respondents
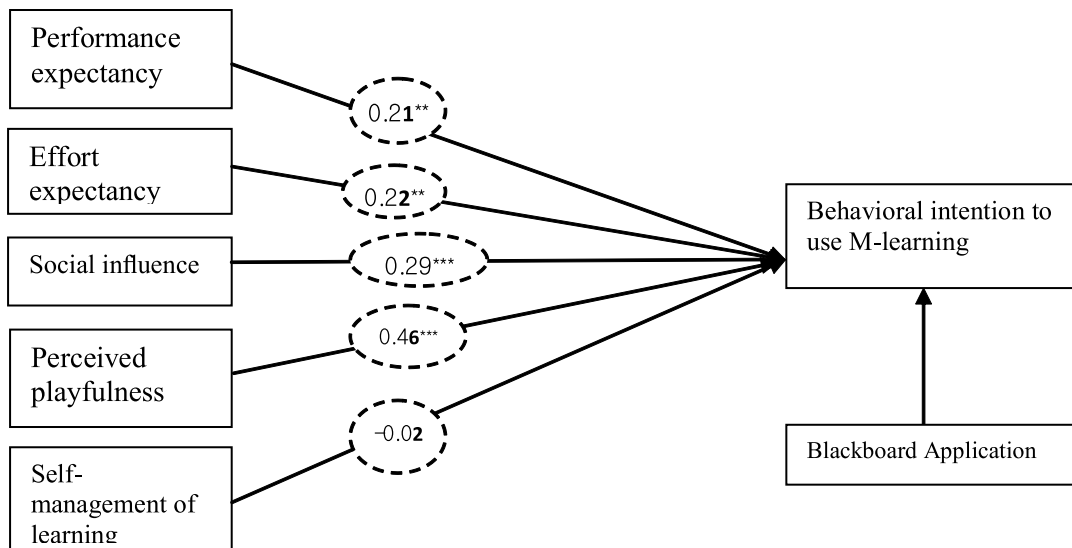
$^{*}p < 0.05; ^{**}p < 0.01; ^{***}p < 0.001$

Source: Primary Data computed using SPSS AMOS

Figure-3.Standardised Path Coefficients for Males and Females

Performance expectancy	0.2^{**} 0.2024^{**}
Effort expectancy	0.22^{**} 0.2252^{**}
Social influence	0.29^{***} 0.2988^{***}
Perceived playfulness	0.46^{***} 0.4636^{***}
Self-management of learning	-0.02 -0.0164

Behavioral intention to use M-learning

Blackboard Application
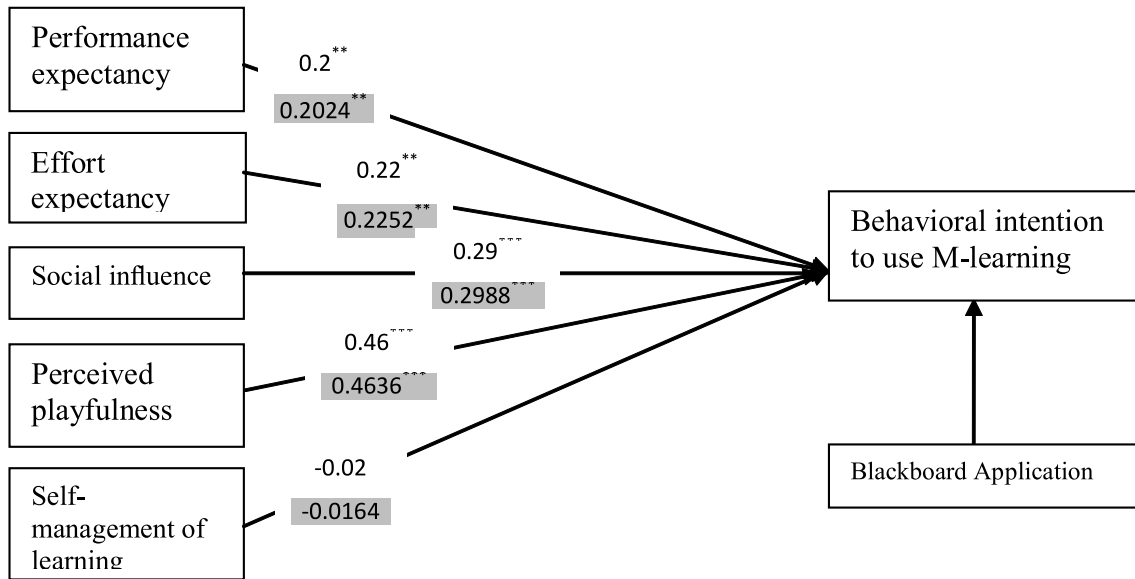
$^{*}p < 0.05;\ ^{**}p < 0.01;\ ^{***}p < 0.001$

Source: Primary Data computed using SPSS AMOS

Figure-4. Standardised Path Coefficients for Younger and Older People

Performance expectancy	0.2^{**} 0.2003^{**}
Effort expectancy	0.23^{**} 0.2292^{**}
Social influence	0.28^{***} 0.2801^{***}
Perceived playfulness	0.45^{***} 0.4494^{***}
Self-management of learning	-0.02 -0.0188

Behavioral intention to use M-learning

Blackboard Application
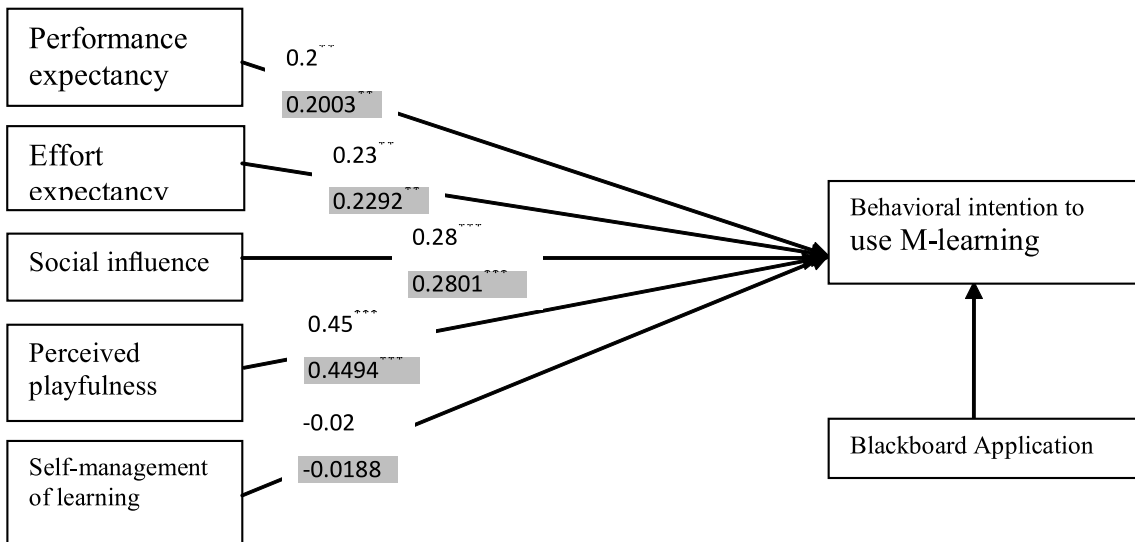
$^{*}p < 0.05;\ ^{**}p < 0.01;\ ^{***}p < 0.001$

Source: Primary Data computed using SPSS AMOS

Table-1:Results of Descriptive Statistics for Characteristics of the Respondents

Characteristic	Number	Percentage
Gender : Male Female	 120 230	 34.3 65.7
Age :		
<18	3	0.9
18-20	130	37.1
20-22	170	48.6
>22	47	13.4
Speciality :		
General setting	74	21.1
Law	130	37.1
Accounting	48	13.7
Financing and insurance	31	8.9
Human Resources	60	17.1
Marketing	7	2
The device used for learning:		
Mobile/Tab	306	87.4
Laptop	44	12.6

Source: Primary Data computed using SPSS.

Table-2: Results of Descriptive Statisitcs for Reliability of Questionnaire

Number of elements	Cronbach's Alpha
6	0.936

Source: Primary Data computed using SPSS.

Table-3:Results of Descriptive Statisitcs for Total Items

	Min	Max	Moyenne	Sd.dev
Gender	0	1	.34	0.475
Age	1	4	2.75	0.692
SL	1	5	3.6165	1.13493
PP	1	5	3.7507	1.12968
SI	1	5	3.7301	0.93710
EE	1	5	3.5597	0.96519
PE	1	5	3.9737	.92711
BI	1	5	3.7102	1.32500

PE: performance expectancy; **EE:** effort expectancy; **SI:** Social Inûuence; **PP:** Perceived Playfulness; **SL:** Self-management of Learning; **BI:** Behavioral Intention.
Source: Primary Data computed using SPSS.

Table-4: Results of Regression Weights for Self-Management of Learning on Behavioural Intention to use M-Learning

	Estim	S.E.	CR.	P
BI - PE	0.206	0.074	2.802	0.005
BI - EE	0.223	0.078	2.865	0.004
BI - SI	0.294	0.077	3.835	0.001
BI - PP	0.46	0.074	6.207	0.001
BI - SL	-0.021	0.064	-0.334	0.738

Source: Primary Data computed using SPSS.

Table-5:Results of Inter-Item Correlation Matrix between Self-Management of Learning and Behavioural Intention to use M-Learning

	SL	PP	SI	EE	PE	BI
SL	1					
PP	0.673	1				
SI	0.593	0.742	1			
EE	0.679	0.748	0.785	1		
PE	0.652	0.754	0.757	0.85	1	
BI	0.578	0.755	0.731	0.745	0.739	1

PE: performance expectancy; **EE:** effort expectancy; **SI:** Social Inûuence; **PP:** Perceived Playfulness; **SL:** Self-management of Learning; **BI:** Behavioral Intention.
Source: Primary Data computed using SPSS AMOS

Table-6: Results of Goodness of Fit Statistics

	Global	Gender	Age
RMSEA	0.59	0.50	0.496
CMIN/DF	121.99	89.89	87.39
NCP	1814.87	1866.86	1814.36
FMIN	5.12	5.38	5.23
AIC	1853.87	1915.86	1863.35
ECVI	5.28	5.45	5.31

Source: Primary Data computed using SPSS AMOS

Table-7:Results of Summary of Testing Results of Hypotheses

	Relationship	Est.Coef	Hypothesis	Testing result
Main effect				
Q1	PE–BI	0.21^{**}	Positive	Supported
Q4	EE–BI	0.22^{**}	Positive	Supported
Q7	SI–BI	0.29^{***}	Positive	Supported
Q10	PP–BI	0.46^{***}	Positive	Supported
Q13	SL–BI	-0.02	Negative	Not Supported
Gender difference				
Q2	PE–BI	0.2024^{***}	Male>Femal	Supported
Q5	EE–BI	0.2252^{***}	Femal>Male	Supported
Q8	SI–BI	0.2988^{****}	Femal>Male	Supported
Q11	PP–BI	0.4636^{****}	Male>Femal	Supported
Q14	SL–BI	-0.0328	Male>Femal	Not Supported (Femal>Male found)
Age difference				
Q3	PE–BI	0.2003^{***}	the youngest	Supported
Q6	EE–BI	0.2292^{***}	the oldest	Supported
Q9	SI–BI	0.2801^{****}	the oldest	Supported
Q12	PP–BI	0.4636^{****}	the youngest	Supported
Q15	SL–BI	-0.0188	the oldest	Not Supported (the youngest found)

Q: Questions in questionnaire; **PE :** performance expectancy; **EE:** Effort Expectancy;
SI: Social Influence; **PP:** Perceived Playfulness; **SL:** Self-management of Learning;
BI: Behavioral Intention. (**** 0.1%, *** 1%, ** 5%, * 10%).
Source: Primary Data computed using SPSS AMOS.