MOBILE LEARNING ACCEPTANCE IN JORDAN

MALIK KHLAIF GHARAIBEH[1*], ISLAH K. GHARAIBEH[2], NATHEER K. GHARAIBEH[3] and HASSAN MOHAMMAD LAFI RABABH[4]

[1*]Business School/Ajloun National University, Ajloun, Jordan.
Corresponding Author Email: malik.gharaibeh@anu.edu.jo
[2]Prince Abdullah Bin Ghazi Faculty of IT, Al-Balqa Applied University.
[3]Taibah University, Yanbu, Saudia Arabia.
[4]The Ministry of Education, Mathematics teacher, Jordan.

Abstract

The current study attempted to discover the factors that affect students' acceptance of mobile learning in public and private Jordanian universities. Linear regression technique has been used through the self-administrated questionnaire. The study sample consisted of 620 students from Ajloun National University, Jadara University and Yarmouk University. The results of the study demonstrated the validity of the study hypotheses and that the specific factors (performance expectancy, effort expectancy, social influence, facilitating conditions influence the acceptance of mobile learning. This research contributes to identifying the factors that affect the acceptance of university students and their use of mobile learning in Jordan. According to the results of the study, the researcher recommends the university administration to pay attention to the factors that affect the students' acceptance of mobile learning to achieve the academic program outputs.

Keywords: Mobile learning, Social influence, UTAUT, Effort expectancy, facilitating conditions, Performance expectancy

1. INTRODUCTION

In recent years, educational institutions have rushed to use information technology in the educational process due to the COVID-19 pandemic[1]. Through e-learning and m-learning, there is no need for the student to be on campus in order to attend lectures, in the same vein, faculty members give lectures through various electronic educational platforms and without the need to come to the classroom [2]. In fact, although most universities have adopted e-learning, its acceptance rate is very low [3]. The use of technology in higher education is useful and inexpensive because universities do not need physical infrastructure and also inexpensive for the student, as he does not need to pay transportation costs to reach the university, which increases his productivity[4]. Previous studies confirmed that the most important advantages of e-learning is flexibility, as it can be implemented at anytime and anywhere[5, 6]. M-learning also increases the student's privacy and self-confidence, and because young people own a mobile phone these days, it increases the students' motivation towards education. Investing in technology is an opportunity for institutions, and if it is appropriately invested, these institutions will achieve high profits[7].

The main idea of this research is to identify the variables that affect the acceptance of mobile learning by Jordanian university students. The research was divided as follows: The second section presents an overview of the theoretical basis. The third section includes both the study model and the hypotheses. The fourth section discusses the methodology used in the research.

The fourth section reviews and discusses the results of the study. Sections 5 and 6 contain limitations, conclusions, and recommendations.

2. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

The factors that affect the acceptance of mobile learning have been studied extensively recently[8, 9], so many models have been developed[10].After reviewing the models, this study relied on UTAUT[11-13] because it is a modern model and includes variables that accurately measure the objectives of this study. As shown in figure 1, UTAUT includes four factors that affect behavioural intentions namely: performance expectancy, effort expectancy, social influence and facilitating conditions.

Figure 1: UTAUT model
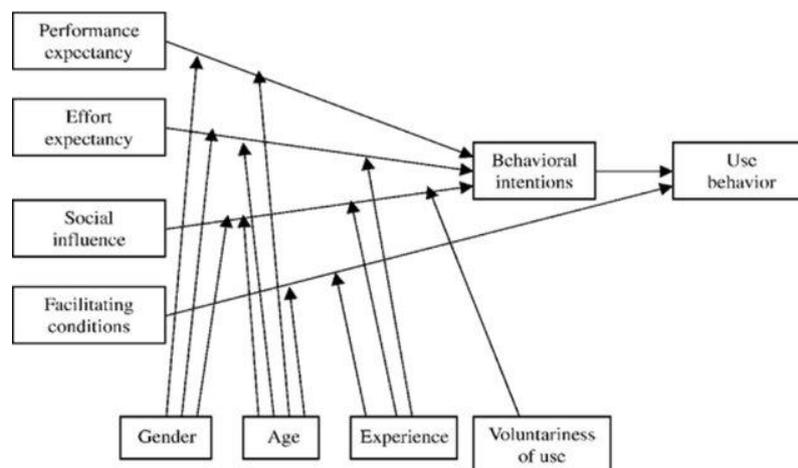
A. Performance expectancy

The idea of performance expectancy is that the customer will tend to use technology more when he feels that the expected benefits will be high[14]. In the context of mobile learning, this study assumes that when the student expects that the expected benefit from using the mobile phone in educational process will be high, this will reinforce the idea of his/her acceptance of this type of education. Based on that, this study suggested the following hypothesis:

H1: Performance expectancy positively affects the acceptance of mobile learning.

B. Effort expectancy

Effort expectancy is based on the fact that the customer will tend to use technology more when he/she feels that the efforts, he/she is making in order to implement the service are easy and do not require much time. In the context of mobile learning, this study assumes that the effort that the student makes as a result of using the mobile phone in the educational process does not need much time to understand and is easy to use, this will reinforce the idea of his/her

acceptance of this type of education. Accordingly, this study suggested the following hypothesis:

H2: Effort expectancy positively affects acceptance of mobile learning.

C. Social influence

In the Jordanian environment, according to the results of previous studies, social influence plays a pivotal role in the acceptance of technology by the customer[15], in other words, friends, colleagues, or family members greatly influence the customer's opinion of the product, service, or new technology. This study assumes that the social influence has a significant impact on student acceptance of mobile learning. Therefore, the following hypothesis was formulated:

H3: Social influence positively affects acceptance of mobile learning.

D. Facilitating conditions

Facilitating conditions provided by the service provider are important for the purposes of the customer's acceptance of this service[16], for example, when the Internet coverage is good in the place where the student lives, this will make him feel satisfied with this service. Other factors such as training in the use of mobile learning or the provision of sufficient resources as well as information that make the student complete the educational process. The provision of these facilities will contribute to the student's acceptance of mobile learning, so the fourth hypothesis is as follows:

H3: Facilitating conditions positively affect acceptance of mobile learning.

Figure 2: Research model
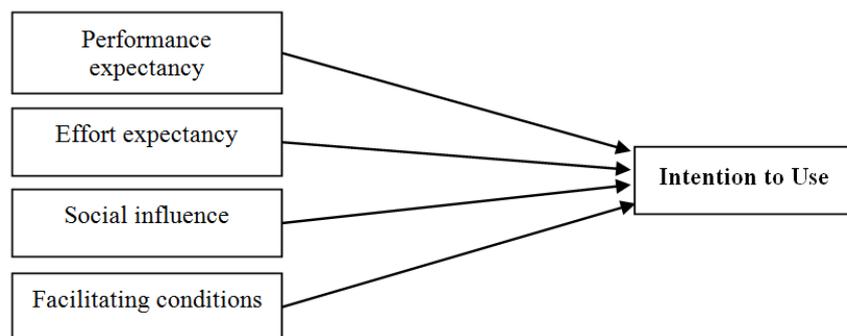
3. METHODOLOGY

A questionnaire was designed for the purpose of achieving the objectives of the research, as the target population was all students of public and private Jordanian universities. 700 questionnaires were distributed, of which 36 were incomplete and 44 unsuitable for statistical analysis were excluded. Therefore, the total number of valid questionnaires for statistical

analysis was 620. The focus was on collecting data from students of several Jordanian universities such as Ajloun National University, Jadara University and Yarmouk University during the period from March 1, 2022 to March 25, 2022. A 5-point Likert scale was used for all questionnaire items ranging from "1 = strongly disagree to 5 = strongly agree". The questionnaire was designed based on the original UTAUT model as appropriate to the context of this research, which includes performance expectancy (3 items), effort expectancy (4 items), social influence (4 items), and facilitating conditions (4 items). SPSS version 26 was adopted for data analysis through the use of linear regression.

4. DATA ANALYSIS AND DISCUSSION

For item-total correlation, all values for each item was above the minimum acceptable value (0.5) as recommended by Hair et al., [17].

Results from Cronbach's alphas showed that all items exceeded the minimum acceptable level which is 0.70 therefore no items were deleted.

For component matrix test, the results indicated that coefficients were more than the minimum acceptable level of 0.70 [18].

The results of regression analysis presented that four hypotheses were accepted. Performance expectancy has been found most significant factor toward acceptance of mobile learning (β = 0.303, $p < 0.001$). Effort expectancy positively affect acceptance of mobile learning ($\beta = 0.270$, $p < 0.001$). Social influence has a significant impact on acceptance of mobile learning (β = 0.233, $p < 0.001$). Facilitating conditions is statistically significant with acceptance of mobile learning. ($\beta = 0.170$, $p < 0.01$). Figure 3 summarized the findings of hypotheses testing.

Figure 3: Results of hypotheses testing

**p<0.01, ***p<0.001
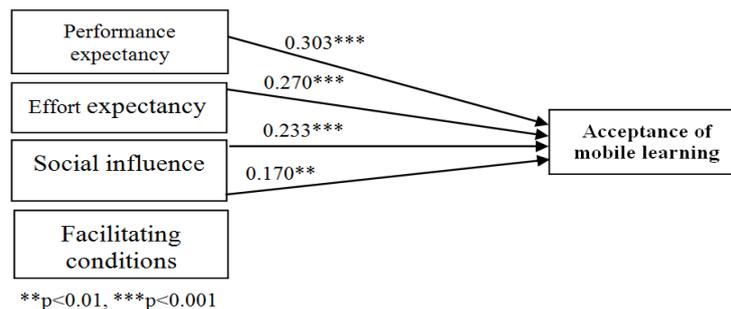
Findings from the study contain useful guidance for university administration, developers, and designers regarding students to use or accept mobile learning. The study showed that the student's realization of the expected benefits of mobile learning leads to an increase in his desire to use it. In fact, so the higher the quality of the information, the quality of the system, the quality of service, the greater the conviction of using mobile learning[19]. In addition, those responsible for these applications must provide information that is up-to-date, easy to

understand and complete. In this way, students will be more motivated to use this service, as they will notice the many benefits that result from its use. During recent years, and through an integrated plan by the government, Jordan has achieved tremendous development in terms of infrastructure in the field of communications. This strategic plan for the educational sector in the transition towards mobile learning is in line with the vision of Queen Rania, who believes that the general trend in the future in universities and schools will be in e-learning.

5. CONCLUSION

Mobile learning has become widely available among university students, because the price of smart phones is now affordable, and also because of the technological development, the Internet now covers larger geographical areas, in addition to the development of easy-to-use applications for learning purposes. Mobile learning is a golden opportunity for both teachers and students because it can be applied at any time and at any time. The results of this study revealed that all the variables in the UTAUT model have a statistical effect on students' acceptance of mobile learning. This study recommends decision-makers and developers of educational systems to take into account all the variables present in UTAUT, since it is a model capable of measuring the factors that affect the adoption of technology in general and mobile learning technology in particular.

6. LIMITATIONS AND FUTURE DIRECTIONS

There are some limitations in this study that must be taken into account in future research. First, the study sample included only the Jordanian arena, so the results of this study cannot be generalized to other countries. Second, the study sample excluded students who do not use mobile learning and was limited to those who use mobile learning. Third, there are important factors such as gender, age, salary, and trust were excluded from this study. It is expected that these factors will have a significant role in students' acceptance of mobile learning. Finally, there are other theories such as Innovation Diffusion Theory [20, 21] or TAM[22] that future researchers can use to measure the most important factors that affect students' acceptance of mobile learning.

References

1. Kosiba, J.P.B., et al., Examining students' satisfaction with online learning during the Covid-19 pandemic-an extended UTAUT2 approach. Journal of Further and Higher Education, 2022: p. 1-18.

2. Ngwacho, G.A., Virtual teaching and learning paradigm shift implications on access, equity and quality in higher education in Kenya. The Cradle of Knowledge: African Journal of Educational and Social Science Research, 2021. **9**(1): p. 8-14.

3. Jacques, S., A. Ouahabi, and T. Lequeu. Synchronous E-learning in Higher Education during the COVID-19 Pandemic. in 2021 IEEE Global Engineering Education Conference (EDUCON). 2021. IEEE.

4. Mahasneh, O., Factors That Affect University College Students' Acceptance and Use of Mobile Learning (ML). International Journal of Instruction, 2021. **14**(3): p. 861-872.

5. Fabian, K. and K.J. Topping, Putting "mobile" into mathematics: Results of a randomised controlled trial. Contemporary Educational Psychology, 2019. **59**: p. 101783.

6. Gupta, Y., F.M. Khan, and S. Agarwal, Exploring Factors Influencing Mobile Learning in Higher Education-A Systematic Review. International Journal of Interactive Mobile Technologies, 2021. **15**(12): p. 140-157.

7. Gharaibeh, M. and M.R.M. Arshad, Current status of mobile banking services in Jordan. World Applied Sciences Journal, 2016. **34**(7): p. 931-935.

8. Fagan, M.H., Factors influencing student acceptance of mobile learning in higher education. Computers in the Schools, 2019. **36**(2): p. 105-121.

9. Ozer, O. and F. Kılıç, The effect of mobile-assisted language learning environment on EFL students' academic achievement, cognitive load and acceptance of mobile learning tools. EURASIA Journal of Mathematics, Science and Technology Education, 2018. **14**(7): p. 2915-2928.

10. Gharaibeh, M.K. and N.K. Gharaibeh, An empirical study on factors influencing the intention to use mobile learning. Advances in Science, Technology and Engineering Systems Journal, 2020. **5**(5): p. 1261-1265.

11. Venkatesh, V., J.Y. Thong, and X. Xu, Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. MIS quarterly, 2012. **36**(1): p. 157-178.

12. Williams, M.D., N.P. Rana, and Y.K. Dwivedi, The unified theory of acceptance and use of technology (UTAUT): a literature review. Journal of enterprise information management, 2015. **28**(3).

13. Venkatesh, V., et al., User acceptance of information technology: Toward a unified view. MIS quarterly, 2003. **27**(3): p. 425-478.

14. Gharaibeh, M.K. and M.R.M. Arshad, Determinants of intention to use mobile banking in the North of Jordan: extending UTAUT2 with mass media and trust. Journal of Engineering and Applied Sciences, 2018. **13**(8): p. 2023-2033.

15. Gharaibeh, N., et al., Exploring intention to adopt mobile commerce: Integrating UTAUT2 with social media. International Journal of Scientific and Technology Research, 2020. **9**(3): p. 3826-3833.

16. Gharaibeh, M.K., et al., Intention to Use Mobile Augmented Reality in the Tourism Sector. Computer Systems Science and Engineering, 2021. **37**(2): p. 187-202.

17. Hair, J.F., et al., Multivariate data analysis: A global perspective. Vol. 7. 2010: Pearson Upper Saddle River, NJ.

18. Field, A., Discovering Statistics Using SPSS (2nd ed). 2005, London: Sage Publications.

19. Gharaibeh, M.K. and M.R.M. Arshad, The Impact of Demographic Factors and Visual Aesthetics of Mobile Application Interface on Intention to Use Mobile Banking in Jordan. Journal of Theoretical & Applied Information Technology, 2018. **96**(4).

20. Gharaibeh, M.K., N.K. Gharaibeh, and M.V. De Villiers, A qualitative method to explain acceptance of mobile health application: Using innovation diffusion theory. International Journal of Advanced Science and Technology, 2020. **29**(4): p. 3426-3432.

21. Gharaibeh, M.K. and N.K. Gharaibeh, Understanding Adoption Intention of Mobile Shopping Applications: Empirical Assessment From IDT–Perceived Risk and Enjoyment. International Journal of Sociotechnology and Knowledge Development (IJSKD), 2021. **13**(2): p. 31-47.

22. Gharaibeh, M.K. and N.K. Gharaibeh, A Conceptual Framework for Intention to Use Travel Apps: A Study From Emerging Markets. International Journal of Service Science, Management, Engineering, and Technology (IJSSMET), 2022. **13**(1): p. 1-16.