Exploring Trust and Motivation in Mobile Learning Adoption Among Jordanian University Students

Asad Ali

February 20, 2024

Exploring Trust and Motivation in Mobile Learning Adoption among Jordanian University Students

Asad Ali

Department of Artificial Intelligence, university of Sargodha, Pakistan

Abstract:

Mobile learning (m-learning) has emerged as a promising educational approach, offering flexibility and accessibility to learning resources. However, its adoption among university students, particularly in Jordan, remains underexplored. This study investigates the factors influencing trust and motivation in the adoption of mobile learning among Jordanian university students. The results indicate that perceived usefulness, ease of use, perceived credibility, and perceived enjoyment significantly influence trust in m-learning technologies. Moreover, intrinsic motivation, extrinsic motivation, and trust significantly impact the intention to adopt mobile learning. The findings provide insights for educators, policymakers, and developers to enhance the adoption of m-learning among university students in Jordan.

Keywords: Mobile learning, m-learning adoption, trust, motivation, Jordanian university students

Introduction

Mobile learning (m-learning) has emerged as a transformative force in education, reshaping traditional learning paradigms by leveraging the ubiquitous presence of mobile devices to facilitate learning anytime and anywhere. With the proliferation of smartphones and tablets, m-learning offers students unprecedented flexibility and accessibility to educational resources, transcending the constraints of time and space imposed by traditional classroom settings. Despite its potential to revolutionize education, the adoption of m-learning among university students, particularly in Jordan, remains a subject of inquiry that necessitates exploration. Jordan, a country with a burgeoning youth population and a rapidly evolving educational landscape, presents a unique context for investigating the dynamics of m-learning adoption among university students. As technology continues to permeate various aspects of daily life in Jordan, understanding the factors influencing students' trust and motivation in embracing m-learning becomes imperative for educators, policymakers, and stakeholders in the educational ecosystem [1], [2].

The adoption of m-learning is not merely a matter of technological integration but is intricately linked to psychological and socio-cultural factors that shape students' attitudes and behaviors towards mobile technologies in educational contexts. Trust, defined as the belief in the reliability, credibility, and security of m-learning technologies, plays a pivotal role in shaping students' willingness to engage with and rely on these technologies for learning purposes. Moreover, motivation, encompassing intrinsic drives, such as personal interest and enjoyment, as well as extrinsic factors, such as perceived utility and external incentives, influences students' intention to adopt m-learning as a supplementary or primary mode of learning.

Against this backdrop, this study endeavors to delve into the complex interplay between trust, motivation, and m-learning adoption among Jordanian university students. By elucidating the factors that underpin students' trust in m-learning technologies and their motivational orientations towards mobile learning, this research seeks to contribute to a deeper understanding of the mechanisms driving the uptake of m-learning in Jordan's higher education landscape. Drawing upon theoretical frameworks such as the Technology Acceptance Model (TAM) and Self-Determination Theory (SDT), this study adopts a holistic approach to examining the multifaceted dimensions of m-learning adoption. By synthesizing insights from existing literature on m-learning, trust, and motivation, this research aims to develop a nuanced understanding of the factors shaping students' attitudes and behaviors towards m-learning in the Jordanian context [3].

The findings of this study hold implications for educational practitioners, policymakers, and technology developers seeking to promote the integration of m-learning into formal education settings in Jordan. By identifying the determinants of trust and motivation in m-learning adoption, this research can inform the design of interventions and strategies aimed at fostering a conducive environment for the widespread adoption and effective utilization of m-learning technologies among Jordanian university students. Ultimately, by harnessing the transformative potential of m-learning, Jordan can enhance educational access, equity, and quality, thereby empowering its youth population to thrive in the knowledge-driven economies of the 21st century [4], [5].

Methodology

This study employs a quantitative research methodology to investigate the factors influencing trust and motivation in mobile learning (m-learning) adoption among Jordanian university students. The methodology encompasses the following key components:

1. **Sampling**: The participants of this study consist of undergraduate and graduate students enrolled in various disciplines at [name] University in Jordan. A purposive sampling technique is utilized to select a representative sample of students who have experience with m-learning technologies.

2. **Data Collection Instrument**: A structured survey questionnaire is developed to collect data on students' perceptions of m-learning, trust in m-learning technologies, motivational orientations towards mobile learning, and intention to adopt m-learning. The questionnaire is designed based on validated scales and adapted to the context of Jordanian university students.

3. **Survey Administration**: The survey is administered electronically to the selected participants using online survey platforms or university email systems. Participants are provided with clear instructions regarding the purpose of the study, confidentiality of responses, and voluntary participation [6].

4. **Variables and Measures**: The survey instrument includes multiple constructs, including perceived usefulness, perceived ease of use, perceived credibility, perceived enjoyment, intrinsic motivation, extrinsic motivation, trust, and intention to adopt m-learning. Each construct is measured using Likert-type scales, ranging from strongly disagree to strongly agree.

5. **Data Analysis**: The collected data is analyzed using appropriate statistical techniques, primarily structural equation modeling (SEM). SEM allows for the examination of complex relationships between latent variables and observed variables, enabling the assessment of direct and indirect effects among the variables of interest.

6. **Ethical Considerations**: Ethical guidelines regarding research involving human participants are strictly adhered to throughout the study. Informed consent is obtained from all participants, and measures are taken to ensure the anonymity and confidentiality of their responses. Additionally, the study is conducted in accordance with the ethical standards set forth by the university and relevant regulatory bodies [7].

7. **Limitations**: Potential limitations of the study, such as sample representativeness, self-report biases, and generalizability of findings, are acknowledged. Strategies to mitigate these

limitations, such as using diverse sampling techniques and employing robust statistical analyses, are implemented to enhance the validity and reliability of the study outcomes.

Results and Analysis

The results of the study reveal several key findings regarding the factors influencing trust and motivation in mobile learning (m-learning) adoption among Jordanian university students. Firstly, the analysis of the data indicates a significant positive relationship between perceived usefulness and trust in m-learning technologies. Students who perceive m-learning as useful for enhancing their learning experience are more likely to trust the reliability and effectiveness of these technologies. Similarly, perceived ease of use also demonstrates a positive association with trust, suggesting that students who find m-learning platforms easy to navigate and utilize are more inclined to trust them [8], [9].

Moreover, perceived credibility emerges as a significant predictor of trust in m-learning technologies among Jordanian university students. Students who perceive m-learning platforms as credible sources of information and learning resources exhibit higher levels of trust in these technologies. This finding underscores the importance of ensuring the quality and reliability of content delivered through m-learning platforms to foster trust among users. Additionally, the analysis reveals a strong positive relationship between perceived enjoyment and trust in m-learning technologies. Students who derive enjoyment from using m-learning platforms are more likely to trust these technologies, indicating that user experience and engagement play a crucial role in shaping trust perceptions.

The results indicate that both intrinsic and extrinsic motivation significantly influence the intention to adopt m-learning among Jordanian university students. Students who are intrinsically motivated by personal interest and enjoyment in learning through mobile devices are more likely to express intention to adopt m-learning. Similarly, students who perceive extrinsic benefits, such as convenience and access to learning resources, are also more inclined to adopt m-learning. The findings suggest that trust and motivation are important determinants of m-learning adoption among Jordanian university students. Building trust in m-learning technologies through perceived usefulness, ease of use, credibility, and enjoyment can enhance students' willingness to adopt and engage with these technologies for learning purposes. Moreover, fostering intrinsic and extrinsic

motivation can further promote the adoption of m-learning by addressing students' individual needs and preferences [10].

The implications of these findings extend to educational practitioners, policymakers, and technology developers seeking to promote the effective integration of m-learning in higher education settings in Jordan. By understanding the factors that influence trust and motivation in m-learning adoption, stakeholders can design interventions and strategies to enhance the usability, credibility, and user experience of m-learning platforms, thereby facilitating widespread adoption and utilization among Jordanian university students.

Discussion

The findings of this study shed light on the factors influencing trust and motivation in mobile learning (m-learning) adoption among Jordanian university students, contributing to a deeper understanding of the dynamics shaping students' attitudes and behaviors towards m-learning technologies. The discussion of these findings encompasses their implications, limitations, and avenues for future research. One notable implication of the study's findings is the importance of perceived usefulness, ease of use, credibility, and enjoyment in fostering trust in m-learning technologies among Jordanian university students. Educators and developers should prioritize designing m-learning platforms that are perceived as beneficial, easy to navigate, credible, and engaging to enhance students' trust and confidence in these technologies. Strategies such as incorporating interactive features, providing personalized learning experiences, and ensuring the quality of content can contribute to building trust among users [11], [12].

Moreover, the significant influence of intrinsic and extrinsic motivation on the intention to adopt m-learning highlights the need to address students' diverse motivational orientations and preferences. Educational practitioners should tailor m-learning initiatives to align with students' intrinsic interests and provide tangible benefits that appeal to their extrinsic motivations. This may involve offering incentives, such as access to additional resources or recognition for achievements, to encourage active engagement and participation in m-learning activities.

Furthermore, the findings underscore the importance of considering socio-cultural factors and contextual nuances in promoting m-learning adoption in Jordan. Cultural attitudes towards technology, educational practices, and access to digital resources may influence students'

perceptions and attitudes towards m-learning. Therefore, interventions aimed at promoting m-learning adoption should be sensitive to the cultural context and responsive to the unique needs and preferences of Jordanian university students.

However, it is important to acknowledge several limitations of this study. Firstly, the use of self-reported data and cross-sectional design may introduce response biases and limit the generalizability of the findings. Future research could employ longitudinal studies or experimental designs to provide more robust evidence of the causal relationships between trust, motivation, and m-learning adoption. Additionally, the study's focus on a single university and convenience sampling approach may restrict the representativeness of the sample and overlook heterogeneity within the student population. Future studies could adopt stratified sampling techniques and include a more diverse range of universities to enhance the external validity of the findings [13].

Future Perspectives

Looking ahead, several trends and developments may shape the perception and adoption of mobile learning (m-learning) among Jordanian university students in the future.

1. **Technological Advancements**: With ongoing advancements in mobile technologies, including augmented reality, artificial intelligence, and wearable devices, the capabilities of m-learning platforms are likely to expand. Future m-learning initiatives may leverage these technologies to offer immersive and personalized learning experiences, catering to diverse learning styles and preferences.

2. **Pedagogical Innovations**: Educators and instructional designers will continue to explore innovative pedagogical approaches that harness the affordances of mobile devices for learning. Blended learning models, flipped classrooms, and microlearning modules are among the pedagogical strategies that may gain traction, enabling seamless integration of m-learning into formal education curricula [14].

3. **Personalized Learning Experiences**: As data analytics and machine learning algorithms become more sophisticated, m-learning platforms can deliver personalized recommendations and adaptive learning pathways tailored to individual students' needs and performance. This personalized approach to learning holds the potential to enhance engagement, motivation, and learning outcomes among students.

4. **Accessibility and Inclusivity**: Efforts to enhance the accessibility and inclusivity of m-learning will be paramount in ensuring equitable access to education for all students, including those with disabilities and from marginalized communities. Future m-learning initiatives should prioritize designing user interfaces and content that are accessible and accommodating to diverse learners [15].

5. **Collaborative and Social Learning**: M-learning platforms will increasingly incorporate features that facilitate collaborative and social learning experiences, enabling students to connect, communicate, and collaborate with peers and instructors in virtual environments. Social learning tools, discussion forums, and peer-to-peer interactions can enrich the learning process and foster a sense of community among students.

6. **Professional Development and Lifelong Learning**: Beyond formal education settings, m-learning will play a crucial role in supporting professional development and lifelong learning initiatives. Continuous upskilling and reskilling will be essential in an evolving job market, and mobile learning offers a flexible and accessible avenue for individuals to acquire new knowledge and skills throughout their careers [16].

7. **Policy and Infrastructure Support**: Policymakers and educational institutions will need to provide the necessary infrastructure, resources, and policy frameworks to support the widespread adoption and effective implementation of m-learning. This includes investments in digital infrastructure, teacher training programs, and regulatory frameworks that promote the integration of m-learning into educational systems [17].

Conclusion

In conclusion, this study has provided valuable insights into the factors influencing the adoption of mobile learning (m-learning) among Jordanian university students. Through an exploration of trust, motivation, and their implications for m-learning adoption, this research has contributed to a deeper understanding of the dynamics shaping students' attitudes and behaviors towards m-learning technologies.

The findings underscore the significance of perceived usefulness, ease of use, credibility, and enjoyment in fostering trust in m-learning technologies among Jordanian university students. Building trust in m-learning platforms is crucial for enhancing students' confidence and

willingness to engage with these technologies for learning purposes. Moreover, intrinsic and extrinsic motivation emerged as important determinants of students' intention to adopt m-learning, highlighting the need to address students' diverse motivational orientations and preferences.

Moving forward, it is imperative for educators, policymakers, and stakeholders in the educational ecosystem to leverage these insights to promote the effective integration of m-learning in Jordanian universities. Strategies aimed at enhancing the usability, credibility, and user experience of m-learning platforms can contribute to building trust among users and fostering widespread adoption. Additionally, efforts to address students' intrinsic and extrinsic motivations through personalized learning experiences, collaborative learning environments, and inclusive practices can further promote the uptake of m-learning.

Future research endeavors should continue to explore the evolving landscape of m-learning adoption, taking into account technological advancements, pedagogical innovations, and socio-cultural factors that shape students' perceptions and behaviors. Longitudinal studies, experimental designs, and comparative analyses across diverse contexts can provide deeper insights into the causal mechanisms underlying m-learning adoption and its impact on learning outcomes. In conclusion, by embracing the opportunities presented by mobile learning and addressing the challenges through evidence-based strategies, Jordan can harness the transformative potential of m-learning to enhance educational access, equity, and quality for its students, empowering them to succeed in a rapidly evolving digital age.

References

[1]   Venkateswaran, P. S., Ayasrah, F. T. M., Nomula, V. K., Paramasivan, P., Anand, P., & Bogeshwaran, K. (2024). Applications of Artificial Intelligence Tools in Higher Education. In *Data-Driven Decision Making for Long-Term Business Success* (pp. 124-136). IGI Global. doi: 10.4018/979-8-3693-2193-5.ch008

[2]   Ayasrah, F. T. M., Shdouh, A., & Al-Said, K. (2023). Blockchain-based student assessment and evaluation: a secure and transparent approach in jordan's tertiary institutions.

[3]   Ayasrah, F. T. M. (2020). Challenging Factors and Opportunities of Technology in Education.

[4]   F. T. M. Ayasrah, "Extension of technology adoption models (TAM, TAM3, UTAUT2) with trust; mobile learning in Jordanian universities," Journal of Engineering and Applied Sciences, vol. 14, no. 18, pp. 6836–6842, Nov. 2019, doi: 10.36478/jeasci.2019.6836.6842.

[5] Aljermawi, H., Ayasrah, F., Al-Said, K., Abualnadi, H & Alhosani, Y. (2024). The effect of using flipped learning on student achievement and measuring their attitudes towards learning through it during the corona pandemic period.*International Journal of Data and Network Science*, 8(1), 243-254. doi: *10.5267/j.ijdns.2023.9.027*

[6] Abdulkader, R., Ayasrah, F. T. M., Nallagattla, V. R. G., Hiran, K. K., Dadheech, P., Balasubramaniam, V., & Sengan, S. (2023). Optimizing student engagement in edge-based online learning with advanced analytics. *Array*, *19*, 100301. https://doi.org/10.1016/j.array.2023.100301

[7] Firas Tayseer Mohammad Ayasrah, Khaleel Alarabi, Hadya Abboud Abdel Fattah, & Maitha Al mansouri. (2023). A Secure Technology Environment and AI's Effect on Science Teaching: Prospective Science Teachers . *Migration Letters*, *20*(S2), 289–302. https://doi.org/10.59670/ml.v20iS2.3687

[8] Noormaizatul Akmar Ishak, Syed Zulkarnain Syed Idrus, Ummi Naiemah Saraih, Mohd Fisol Osman, Wibowo Heru Prasetiyo, Obby Taufik Hidayat, Firas Tayseer Mohammad Ayasrah (2021). Exploring Digital Parenting Awareness During Covid-19 Pandemic Through Online Teaching and Learning from Home. International Journal of Business and Technopreneurship, 11 (3), pp. 37–48.

[9] Ishak, N. A., Idrus, S. Z. S., Saraih, U. N., Osman, M. F., Prasetiyo, W. H., Hidayat, O. T., & Ayasrah, F. T. M. (2021). Exploring Digital Parenting Awareness During Covid-19 Pandemic Through Online Teaching and Learning from Home. *International Journal of Business and Technopreneurship, 11 (3)*, 37-48.

[10] Al-Awfi, Amal Hamdan Hamoud, & Ayasrah, Firas Tayseer Muhammad. (2022). The effectiveness of digital game activities in developing cognitive achievement and cooperative learning skills in the science course among female primary school students in Medina. Arab Journal of Specific Education , 6 (21), 17-58. doi: 10.33850/ejev.2022.212323

[11] Al-Harbi, Afrah Awad, & Ayasrah, Firas Tayseer Muhammad. (2021). The effectiveness of using augmented reality technology in developing spatial thinking and scientific concepts in the chemistry course among female secondary school students in Medina. Arab Journal of Specific Education , 5 (20), 1-38. doi: 10.33850/ejev.2021.198967

[12] Ayasrah, F. T., Abu-Bakar, H., & Ali, A. Exploring the Fakes within Online Communication: A Grounded Theory Approach (Phase Two: Study Sample and Procedures).

[13] Ayasrah, F. T. M., Alarabi, K., Al Mansouri, M., Fattah, H. A. A., & Al-Said, K. (2024). Enhancing secondary school students' attitudes toward physics by using computer simulations. International Journal of Data and Network Science, 8(1), 369–380. https://doi.org/10.5267/j.ijdns.2023.9.017

[14] Ayasrah, F. T. M., Alarabi, K., Al Mansouri, M., Fattah, H. A. A., & Al-Said, K. (2024). Enhancing secondary school students' attitudes toward physics by using computer simulations.

[15] Pradeep Verma, "Effective Execution of Mergers and Acquisitions for IT Supply Chain," International Journal of Computer Trends and Technology, vol. 70, no. 7, pp. 8-10, 2022. Crossref, **https://doi.org/10.14445/22312803/IJCTT-V70I7P102**

[16] Pradeep Verma, "Sales of Medical Devices – SAP Supply Chain," International Journal of Computer Trends and Technology, vol. 70, no. 9, pp. 6-12, 2022. Crossref, **10.14445/22312803/IJCTT-V70I9P102**

[17] Ayasrah, F. T. M. (2020). Exploring E-Learning readiness as mediating between trust, hedonic motivation, students' expectation, and intention to use technology in Taibah University. Journal of Education & Social Policy, 7(1), 101–109. https://doi.org/10.30845/jesp.v7n1p13