



Proceedings of the Informing Science + Information Technology Education Conference

An Official Publication
of the Informing Science Institute
InformingScience.org

InformingScience.org/Publications

Online July 6-7, 2022

INTEGRATING INFORMATION TECHNOLOGY IN PRECOLLEGE EDUCATION IN KUWAIT: TEACHERS' PERSPECTIVES ON A BOTCHED INITIATIVE

Zainab M. AlQenaei*	Kuwait University, Sabah Al-Salem University City, Kuwait	zainab.alqenaei@ku.edu.kw
Omar Khalil	Kuwait University, Sabah Al-Salem University City, Kuwait	omar.khalil@ku.edu.kw
Abrar Y. Aldekheel	The Public Authority for Applied Education and Training, Shuwaikh, Kuwait	ay.aldekheel@paet.edu.kw

* Corresponding author

NOTE: The full paper was previously published as the following and is being presented at this conference:

ABSTRACT

Aim/Purpose	This study collects empirical evidence to investigate the extent to which high school teachers adopted the tablet computer in their instruction within the context of the Tablet Project in Kuwait and explores what drove their adoption behavior.
Background	The role of information technology in education is prominent and takes different forms depending on the purpose of information technology adoption and the adopted information technology systems. To utilize emerging technology in education in Kuwait, the government launched an initiative to integrate the tablet computer into high school education during the 2015–2016 academic year. Three years later, some evidence doubting the project's value had had been circulated, which motivated undertaking a thorough investigation to assess the project's effectiveness, particularly from the teachers' perspectives and its influential factors.

The full paper was previously published as the following and is being presented at this conference:

AlQenaei, Z. M., Khalil, O., & Aldekheel, A. Y. (2021). Integrating information technology in precollege education in Kuwait: Teachers' perspectives on a botched initiative. *Journal of Information Technology Education: Research*, 20, 529-558. <https://doi.org/10.28945/4890>

Abstract published in *Proceedings of InSITE 2022: Informing Science and Information Technology Education Conference*, July 6-7 [online], Article 14 Informing Science Institute. <https://doi.org/10.28945/4950>

(CC BY-NC 4.0) This article is licensed to you under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/). When you copy and redistribute this paper in full or in part, you need to provide proper attribution to it to ensure that others can later locate this work (and to ensure that others do not accuse you of plagiarism). You may (and we encourage you to) adapt, remix, transform, and build upon the material for any non-commercial purposes. This license does not permit you to use this material for commercial purposes.

Methodology	We adapted an expanded Technology Acceptance Model to assess the extent of high school teachers' use of the system in their teaching practice and to examine the effects of teaching efficacy, perceived ease of use, and perceived usefulness on that use behavior. To test the research hypotheses, a data set was collected from 206 teachers and analyzed using the partial least squares structural equation modeling (PLS-SEM) method.
Contribution	Our empirically derived results confirm the scanty information that was in circulation at the time of this study and that claimed that the Tablet Project was not progressing sufficiently or achieving its objectives. These results could guide future efforts aimed at effectively integrating information technology into high school education in Kuwait and at enhancing the ongoing online education necessitated by the COVID-19 pandemic. They also advise that effective integration of information technology into teaching and learning mandates a comprehensive redesign and digitization of the targeted educational system.
Findings	Although teachers report minimal use of the system in teaching, teaching efficacy emerges as the strongest determinant of that use behavior, followed by perceived ease of use and perceived usefulness. The fitted model also has satisfactory explanatory power as it explains 43% of the variance in use behavior.
Recommendations for Practitioners	The results of this study suggest that, in the public schools of Kuwait, teaching efficacy is a more important determinant of the use behavior of information technology in teaching than perceived ease of use or perceived usefulness. In addition, it is difficult to adopt information technology into teaching where there is inadequate awareness of the role of technology in e-learning, a lack of content modules fit for information technology-assisted teaching, poor Internet connections, a lack of technical support, and a lack of adequate professional and technical training.
Recommendations for Researchers	This study offers significant empirical results from the Arabian milieu on the utility of the Technology Acceptance Model in elucidating public high school teachers' adoption of the tablet computer in teaching practice. Our results also enhance the growing global body of knowledge on the integration of hedonic systems as well as their individual and contextual determinants in education, in general, and in teaching practice, in particular. Furthermore, teaching efficacy is an important determinant of teachers' adoption of information technology in teaching.
Impact on Society	Information technology augments traditional, face-to-face teaching and learning in societies by incorporating rich, online learning experiences and creating a motivating and efficient learning environment. Yet, the value of information technology-enabled education depends significantly on the successful integration of the systems into the educational process, and the results of this study could serve as a foundation for policies and plans aimed at successfully integrating information technology into the educational systems in Kuwait and similar societies.
Future Research	The results and limitations of this study suggest several future research topics. Future research should explore the extent of students' adoption of the tablet computer in learning activities and its important determinants to gain a better understanding of the Kuwaiti Tablet Project initiative. In addition, future research should employ other research methods (e.g., qualitative analysis), use samples from private schools' teachers, and incorporate and test other possible

determinants of teachers' adoption of information technology in teaching to verify the validity and generalizability of the reported results.

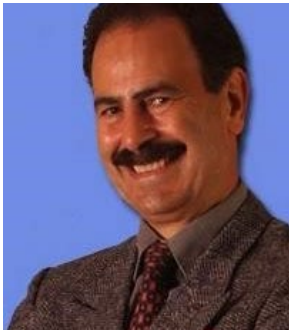
Keywords

information technology (IT), education, Technology Acceptance Model (TAM), teaching efficacy (TE), perceived ease of use (PEOU), perceived usefulness (PU), Kuwait

AUTHORS



Zainab M. AlQenaiei is an Assistant Professor of Information Systems at the College of Business Administration, Kuwait University. Her current research interests include text mining and business analytics. She received a Ph.D. in Business Administration from the University of Colorado, a Master of Business Administration from the University of Pittsburgh, and Bachelor in Computer Engineering from Kuwait University. She is a member of the Chief Science Officer steering committee at the Kuwait Foundation for the Advancement of Sciences and a co-founder of a local IT awareness campaign Be Smart and Safe. She serves as the vice chair of the digital transformation committee at the National Bureau for Academic Accreditation and Education Quality Assurance at the Ministry of Higher Education in Kuwait.



Omar Khalil is a Professor Emeritus at the University of Massachusetts, USA, and currently he is a Professor of Information Systems at Kuwait University. He has a PhD in Information Systems with a minor in Computer Science from the University of North Texas, USA. Prior to his current tenure with Kuwait University, he held different academic and administrative appointments with several Egyptian and American universities. Has been professionally active as officer, member, and participant in a number of international and regional professional associations. He has more than hundred publications and his publications have appeared in numerous information systems and management journals. His research interest includes, among others, information systems effectiveness, global information systems, information quality, e-government, information ethics, and knowledge management.



Abrar Y. Aldekheel is a specialist computer trainer at the Higher Institutes of Telecommunications & Navigation (HITN), The Public Authority for Applied Education and Training (PAAET). She received her bachelor's in computer engineering from Kuwait University. She is a member of PAAET Training Association, Kuwait Society of Engineers, UK-GCC women in Cyber Security Fellowship, and a co-founder of a local IT awareness campaign Be Smart and Safe. She also had an experience as a computer engineer at the Kuwait Fund of Arabic Economic Development and as a head section of Networking and Technical support Department at the Distance Learning Center (DLC) at Kuwait University. She also holds professional certificates in different academic, educational, and computer fields.