UNIVERSITY OF SOUTHERN QUEENSLAND

Information and Communication Technology Acceptance Model for Empirically Testing Primary Science Teachers' Use of ICT in Kuwait

A Dissertation submitted by
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For the award of
Doctor of Philosophy

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2015

Abstract

Research has indicated that teachers' perceptions have an important influence on their use of Information and Communication Technology (ICT) in teaching. The main aim of this study was to develop and assess a theoretical model that can predict and explain female primary school science teachers' use of ICT by focusing on a range of psychosocial factors. To achieve this, the technology acceptance model (TAM) (Davis, 1989) was adapted. TAM is considered to be a suitable theoretical framework on which to base the study because of its unique approach to examining behaviour towards the use of technology and its wider applicability in behavioural studies. There are two key predictors in TAM, perceived usefulness and perceived ease of use. Further, the model also has a variable that is known as behavioural intention, which is closely linked to actual behaviour. In the current study certain extensions to the model were added to explain variance not predicted by the standard TAM variables of usefulness and ease of use. The proposed ICT Acceptance model was developed by adding the constructs perceived external barriers, self-efficacy of using ICT in teaching, and subjective norms to the original TAM, to assess its performance in predicting teachers' use of ICT in teaching.

Using a survey questionnaire, data were collected from a total of 500 Kuwaiti female primary science teachers. Structural equation modelling (SEM) using AMOS 21.0 software was employed as the statistical analytic technique to assess the proposed model (ICTAM). The survey results revealed that the proposed model demonstrated a good fit. Interviews were also conducted with 21 female science teachers which provided greater details in more depth about why teachers make an effort to use ICT even if it is not provided by the schools. The study revealed important information about factors that affect teachers' acceptance of ICT in teaching science. It identified which barriers have to be removed in order to encourage science teachers to use ICT in their teaching. Moreover, suggestions were made for successful implementation of ICT in teaching science.

Certification of Dissertation

I certify that the ideas, experimental work, results, analyses, software and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

30 July 2014

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Signature of Candidate Date

ENDORSEMENT

30 July 2014

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Signature of Principal Supervisor Date

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Signature of Associate Supervisor Date

Acknowledgements

In the name of Allah, the most beneficent, the most merciful

First and foremost I would like to present my gratitude to Allah for giving me the strength to accomplish my PhD.

I would like to take this opportunity to express my sincere gratitude to my principal supervisor Dr. Peter Albion, for his invaluable guidance and stimulating suggestions, support and encouragement throughout my intellectual journey. "Thank you" will never be enough to express my respectful for all that you have given me. Thank you again Dr. Peter Albion. I would also like to express heartfelt thanks to my associate supervisor Dr. Karen Spence for her kind help and support throughout my study. Their support provided me the confidence to complete this thesis.

My deepest gratitude goes to the Kuwait Public Authority for Applied Education and Training (PAAET) for allowing and supporting me financially to make this journey. My special thanks go to the Ministry of Education for facilitating the task of the data collection. My thanks also go to all teachers involved in this study for their patience, help and response.

I would like to thank H.H.Sheikh Sabah Al-Ahmad Al-Jaber Al-Sabah for his vision to improve the education in Kuwait.

I would like to thank Smo al Sheikh Naser Mohamed Al-Ahmad for his concern about improving education in Kuwait as he opened the door for more scholarships for Kuwaitis to study overseas once he became a prime minister of the Kuwaiti government.

I would like to thank Sheikha Mozah bint Nasser Al Missned for inspiring me. I am impressed how she concerns about women in Gulf and endeavors always to make sure that they are well educated. Also, I am impressed how this mother of seven is leading programs to improve education.

I would like to thank my friends and fellow PhD students especially Ahmad Alsabawy, Sophia Imran, Wahida Zarra, and Hellene Demosthenous for their help and support. My thanks go to the University security for providing protection for me at night while I studied.

Thank you to my family. Thank you to my father, for unwavering love, and support. A very special thank you to my mother, for thinking of me all the time, unceasing praying for me, and assisting me along the way. Thank you to my brothers, sisters, mother-in-low, brothers-in-low, and sisters-in-low, for love and unfailing support.

A very special thank you to my husband Ahmad Alshemmari, thank you for your love and support and for giving of your time in so many ways, for helping me in data collection, generously taking care of me during pregnancy and after delivery and much, much more. A very special thank you to my children Huda, Nada, Nour, Abdulrahman, and Rema, for entering references into my bibliographical data base, organizing my papers, cooking while I was busy, and much, much more. I am blessed to have such a caring family whose patience and love have accompanied me throughout this study. I dedicate this dissertation to all of you.

Table of Contents

List of Figures

List of Tables