

UNIVERSITY OF SOUTHERN QUEENSLAND

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

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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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30 July 2014

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