ADOPTION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN TEACHING AND LEARNING ENVIRONMENT IN JORDANIAN HIGHER EDUCATION INSTITUTIONS

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ii

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Abstrak

Teknologi Maklumat dan Komunikasi (ICT) memainkan peranan penting dalam institusi moden dengan meningkatkan dan memudahkan proses pengajaran dan pembelajaran selari dengan zaman teknologi maklumat. Jordan, sebagai negara membangun, amat menghargai kepentingan Institusi Pengajian Tinggi (IPT) dan peranannya dalam usaha mencapai kemakmuran ekonomi menerusi pembangunan sumber manusia. Namun, penerimaan dan penggunaan ICT dalam pengajaran dan pembelajaran dalam kalangan kakitangan akademik di IPT awam di Jordan adalah agak rendah. Tujuan utama kajian ini adalah untuk mengkaji faktor yang mungkin penting dalam mempengaruhi penerimaan dan penggunaan ICT dalam kalangan ahli akademik Jordan. Kajian ini menjelaskan penggunaan ICT dengan menggunakan Teori Difusi Inovasi, *Theory of Planned Behavior,* dan *Decomposed Theory of Planned Behavior.* Satu tinjauan telah dijalankan ke atas 500 kakitangan akademik yang dipilih daripada IPT awam di Jordan. Sejumlah 415 peserta (83%) telah memberi maklumbalas kepada soalselidik tersebut. Dapatan kajian menunjukkan bahawa norma-norma subjektif dan persepsi terhadap tingkah laku pengawalan telah secara positif mempengaruhi keinginan bertingkahlaku untuk menggunakan ICT di IPT di kalangan ahli akademik. Kajian ini memberi cadangan kepada pengurusan pendidikan tinggi dan penggubal dasar ke arah peningkatan penggunaan dan penyebaran teknologi pada masa akan datang. Selain itu, kajian ini juga menghuraikan dengan jelas penerimaan ICT dalam bidang teknologi pendidikan dalam konteks negara membangun amnya, dan negara Arab khususnya.

Kata Kunci: Teori Difusi Inovasi, *Theory of Planned Behavior*, *Decomposed Theory of Planned Behavior*, Penerimaan, Teknologi pembelajaran

Abstract

Information and Communication Technology (ICT) plays an important role in modern institutions by facilitating and improving the teaching and learning process to be in line with the information technology age. Jordan, as one of the developing countries, highly values the importance of Higher Education Institutions (HEIs) and their role in achieving an economic prosperity through the development of human resources. Unfortunately, the adoption and usage of ICT in teaching and learning process is quite low among the academic staff in the public HEIs in Jordan. The main purpose of this study is to examine the potential prominent factors related to the adoption and usage of ICT in Jordanian HEIs among the academicians. The study provides an understanding on the ICT usage by applying the Diffusion of Innovation theory, Theory of Planned Behavior and the Decomposed Theory of Planned Behavior. A self-administered survey was conducted on 500 academic staff selected from public HEIs in Jordan. A total of 415 participants (83%) responded to the questionnaires. The findings showed that subjective norms, attitude towards technology, and perceived behavioral control positively affected the behavioral intention to use ICT in HEIs among academicians. The study provides recommendations to the higher education leaders and policy makers towards promoting a successful adoption and diffusion of technologies in the future. Besides, it offers a clear description about the adoption in the field of educational technologies in the context of developing countries and the Arab world in particular.

Keywords: Diffusion of Innovation, Theory of Planned Behavior, Decomposed Theory of Planned Behavior, Adoption, Educational technology

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Table of Contents

List of Tables

List of Figures

List of Appendices

List of Abbreviations

ANOVA	Analysis Of Variance
ASMO	Arab Standards and Metrology Organization
ATT	Attitude Toward Technology
BI	Behavioral Intention
CBL	Computer Based Learning
CIA	U.S Central Intelligence Agency
COMPT	Compatibility
COMPX	Complexity
CSE	Computer Self Efficacy
DF	Degree of Freedom
DOI	Diffusion Of Innovation
DTPB	Decomposed Theory of Reasoned Action
DV	Dependant Variable
EFA	Exploratory Factor Analysis
EFL	English as a Foreign Language
ERFKE	Education Reform For Knowledge Economy
FA	Factor Analysis
GFC	Government Facilitating Condition
HEI	Higher Education Institutions
$\mathbf{H_I}$	Hypothesis i
HKJ	Hashemite Kingdom of Jordan
HM	His Majesty
ICT	Information and Communication Technology

IDPM	Innovation–Decision Process Model
INTAJ	Information Technology Association
IS	Information System
IT	Information Technology
IV	Independent Variable
JEI	Jordan Education Initiative
JUST	Jordan University of Science and Technology
KMO	Kaiser-Meyer-Olkin
LRA	Linear Regression Analysis
MBL	Mobile Based Learning
MENA	Middle East and North Africa
MIS	Management Information System
MMC	Mass Media Channel
MOHESR	Ministry of Higher Education and Scientific Research
MOICT	Ministry of Information and Communication Technology
MTC	Mobile Telecommunication Company
MVA	Missing Value Analysis
OBSERV	Observability
PBC	Perceived Behavioral Control
PC	Personal Computer
PCA	Principal Component Analysis
PDA	Personal Digital Assistant
PEOU	Perceived Ease of Use
PFA	Principal-Axis Factoring Analysis

PTTB	Telephone and Telegraph Bureau
PU	Perceived Usefulness
RA	Relative Advantage
RFC	Resource Facilitating Condition
RO	Research Objective
RQ	Research Question
SD	Standard Deviation
SE	Self Efficacy
SN	Subjective Norms
SN-WOM	Subjective Norms with Word of Mouth
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
TAM2	Extension Technology Acceptance Model
TDM	Total Design Method
TFC	Technology Facilitating Condition
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
TRIAL	Trialability
TRC	Telecommunications Regulatory Commission
UAE	United Arab of Emirates
UK	United Kingdom
UNDP	United Nations Development Program
UPM	Universiti Putra Malaysia
USA	United States of America

UTAUT	Unified Theory of Acceptance and Use of Technology
UUM	Universiti Utara Malaysia
VIF	Variance Inflation Factor
W_O_M	Word of Mouth
WAP	Wireless Application Protocol
WEBCT	Web Course Tools
WEF	World Economic Forum
ZU	Zayed University

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CHAPTER One

INTRODUCTION

</div>

1.1 Introduction

Information and Communication Technology (ICT) plays an important role in modern institutions by facilitating and improving the teaching and learning process to accompany the information age. Developing nations have more at stake in the diffusion of ICT in supporting higher education than do the developed nations. As this technology diffusion process is often the economic lever upon which national competitive advantage will reside, technology education provides the manpower to achieve this high technology advantage.

In striving towards a competitive institution, a university or any higher education institutions must enhance teaching and training process related to the advancement of ICT and the innovations technologies (Wood, 1995; Duggan, Hess, Morgan, Kim, and Wilson, 2001). Hence, universities in developing countries as well as in developed countries attempt to move in parallel with the rapid advancements of ICT by increasing the adoption of ICT as tools to develop and improve the teaching and learning process and to become more flexible by reducing some difficulties in the education process.

In relation, the Jordanian government represented by the Ministry of Higher Education and Scientific Research (MoHESR) emphasizes to adopt the Royal Message in the Higher Education Development Forum (HEDF), which was convened in 2007 at the Dead Sea, Jordan. One of the forum's main objectives is the

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