

INFORMATION TECHNOLOGY ACCEPTANCE BY UNIVERSITY LECTURES: CASE STUDY AT APPLIED SCIENCE PRIVATE UNIVERSITY

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Abstract

Purpose – The purpose of this paper is to explore the Information Technology Acceptance by University Lectures within the applied science private university.

Design/methodology/approach – A purposive sampling technique was used to recruit 156 Lectures representing the desired range of demographic characteristics (e.g. gender, age, Educational Level, and Experience Years).

Findings – This paper showed that there is not influence perceived usefulness on the acceptance on information technology usage, but there is influence perceived (ease of use, complexity,

Computing support, and Management support) on the acceptance on information technology usage.

Originality/value – The paper contributes to previous research by adding to existing knowledge regarding what constitutes Information Technology Acceptance. The paper makes key recommendations towards enhancing skills of teaching staff members at the fields of educational materials design and development for the use by modern IT methods.

Keywords: Information Technology, Applied Science University, Lectures, Jordan.

1. Introduction

Information technology acceptance has been studied ever since the existence of the term. It is a fast growing research field and many models have been developed to study the user acceptance and adoption of the new technology. TAM is one of the leading technology acceptance models. A user attitude towards the acceptance of new information technology plays an important role on information technology adoption and use (Davis & Venkatesh, 2004). TAM has been extended over time to include other determinant factors that contribute to the adoption of new technology.

This research aims at exploring the factors that influence Information Technology acceptance by professors at Applied Science University. We shall explore to what level professors are using and adopting information technology products in and out of the classroom. A modified version of the Technology Acceptance Model was introduced and shaped to achieve this objective and a new research model was depicted. The research findings shall contribute to the information technology field in general and to the technology acceptance in specific. Universities and higher education institutions shall formulate a clear view of how professors use information technology and to what extent information technology plays an important role in a professor's daily activities in research and academia.

2. Historical Review

The Technology Acceptance Model (TAM) is one of the leading models applied in research related to the acceptance of Information Technology use and implementation whether it was software or hardware. TAM was originally introduced by Davis in 1989 (Davis, 1989). It

was intended to show what are the true drivers of user acceptance of information technology products. Ajzen and Fishbein's theory of Reason Action inspired Davis to come out with TAM (Ajzen & Fishbein, 1980). According to the model perceived ease of use and perceived usefulness influence the user's intention to use the new technology. The model clearly identifies perceived ease of use as "the degree to which a person believes that using a particular system would be free from effort" and identifies perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance"(Davis, 1989).

3. Previous Studies

3.1. Perceived complexity

Complexity is one of the major factors affecting the use of new technology. IT is measured by the level of which new technology is perceived as not easy to use and learn. Rogers associate's users refrain from using new technology due to its higher level of difficulty (Rogers & Shoemaker, 1997). The higher the level of Technology difficulty the lower the level of usage of technology which affects the user adoption of the new Technology (Chau & Hu, 2001).

3.2. Computing support

Computing support is divided into tow streams Internal and External (Selamat & Jaffar, 2011) Internal personal computing support is very important in playing a major role in adopting and using of new technology. It is the technical support provided by people working within the company which leads to use of new technology with ease and this shall affect adoption of technology (Viswanath & Davis,2000) and (Selamat & Jaffar, 2011).

On the other hand External support is also extremely important and it is provided by technology vendors, support groups and consultants (Selamat & Jaffar, 2011). Support provided by experts and consultants who possess high knowledge of the technology help uses use the technology and in relation drives users to adopt new technology (Gable, 1991).

3.3. Management Support

IT has been perceived by Igarria that management support and perceived usefulness are interrelated (Igarria, et al., 1995). IT is the perceived degree of support provided by top management for the use of new technology (Viswanath & Davis, 2000). It is well understood

that mgmt support influence humans behavior for the adoption of new technology. Change agents within an organization contribute to the organization use and acceptance of new technology.

3.4. Perceived usefulness

This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance". (Davis ,1989)

3.5. Perceived ease-of-use

Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989).

4. Problem Definition

The study was conducted to address certain key issues about information technology acceptance in the applied science private university. It would be worth examining the normal influence of factors (Perceived usefulness, Perceived ease of use, Perceived Complexity, Computing support, and Management support) on the information technology acceptance. Other questions include the following:

1. To what extent is the level of information technology acceptance in applied science private university?
2. Is there any influence for factors (Perceived usefulness, Perceived ease of use, Perceived Complexity, Computing support, and Management support) on the information technology acceptance?

5. Research model and hypotheses

Based on the theoretical background and the literature review the researchers have developed a conceptual model to integrate the primary components of TAM (perceived usefulness and perceived ease of use) with other components to predict applied science university lectures attitude toward information technology such as perceived complexity, internal and external personal computing support and management support to the TAM.

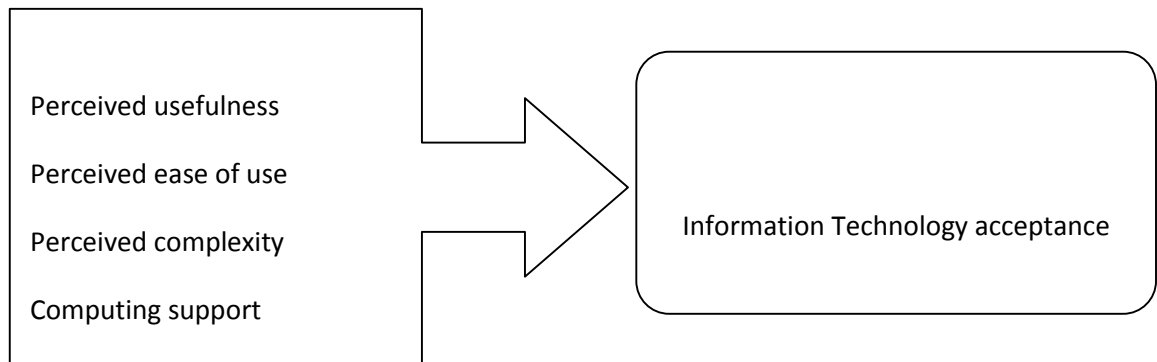


Figure (1) depicts the research model.

6. Hypotheses of the Study

To answer the questions posed by the authors, and based on the literature reviewed, the researchers proposed five main hypotheses as follows:

H1: perceived usefulness has influence on information technology acceptance.

H2: perceived ease of use has influence on information technology acceptance.

H3: perceived complexity has influence on information technology acceptance.

H4: Computing support has influence on information technology acceptance.

H5: management support has influence on information technology acceptance.

7. Methodology:

7.1. Data and Sample

To gather data for this study, a random sample of (164) lectures was selected from the population of Applied Science Privet University, the number of lecturers in this university in 2011 is (285) lecturers. Of the (159) questionnaires returned, (3) were rejected due to incomplete responses and (156) responses (92 percent response rate) were used for data analyses.

It should be noted that every questionnaire was personally handed and instructions were given to each lecturer before completing the questionnaire. In terms of demographic findings, (74.4%) of respondents were males, and the remaining (25.6%) were females. In terms of the age group of respondents, it is interesting to note that (16%) fell into the (25-30) age group, whereas (24.4%)

fell into the (31-35), whereas (16%) fell into the (36-40) age group, whereas (26.3%) fell into the (41-45), only (17.3%) are above this group. As for the educational levels of these lectures, the master degree (25.6%), and the PhD degree (21%). In terms of the Experience years of respondents, (60.9%) of them have less than (6) years, whereas (3.2%) have (6 - 10) Experience years, whereas (18.6%) have (11 - 15) years of experience, only (17.3%) have more. See table (1).

Table 1. Characteristics of the Sample (N=156)

Items	frequency	Percent
Gender:		
Male	116	74.4
Female	40	25.6
Age:		
Less than 25 year	0	0
25 – 30 Years	25	16.0
31 – 35 Years	38	24.4
36 – 40 years	25	16.0
41 – 45 Years	41	26.3
46 Years and more	27	17.3
Educational Level:		
Master	40	25.6
PhD	116	74.4
Experience Years:		
1 – 5 Years	95	60.9
6 – 10 Years	5	3.2
11 – 15 Years	29	18.6
16 Years and more	27	17.3

7.2. Research instrument:

The questionnaire was designed and developed using the results of the literature review. The draft questionnaire was tested by scholars and experts, which led to minor modifications in the wording of some survey items. The final questionnaire comprises two parts. The first part is demographics of the sample such as gender, age, educational level, experience years, information technology usage and frequency of use. The second part contains a series of questions about the factors affecting the acceptance of IT which is (perceive usefulness, perceived ease. perceived complexity, computing support, and management support) Research constructs were operationalized by means of related studies and a pilot test. A five-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree), was used to measure the research variables.

8. Results and Discussion

Table (2) displays the regression analyses was performed to test the influence of independents variables on information technology acceptance usage.

H1: perceived usefulness has influence on information technology acceptance.

The result shows that there a significant influence for the perceived usefulness on the acceptance information technology usage. The value of R was (0.730) and R^2 (0.532) and the regression coefficient (beta) for perceived usefulness is (-0.047) ($p=0.613$). The result indicated that the null hypothesis can be accepted.

This study finds that there is not influence perceived usefulness on the acceptance on information technology usage. This result is inconsistent with the finding of the study to Selamat and Jaffar (2011), Igarria et al. (1995), and Ndubisi and jantan (2003).

H2: perceived ease of use has influence on information technology acceptance.

The result shows that there a significant influence for the perceived ease of use on the acceptance information technology usage. The value of R was (0.730) and R^2 (0.532) and the regression coefficient (beta) for perceived ease of use is (-0.711) ($p=0.000$). The result indicated that the null hypothesis can be rejected. Therefore, the alternative hypothesis stands.

This study finds that there is influence perceived ease of use on the acceptance information technology usage.

This result is inconsistent with the finding of the study to Selamat and Jaffar (2011), but this result is consistent with the finding of the study to Igbaria et al. (1995), and Ndubisi & Jantan (2003).

H3: perceived complexity has influence on information technology acceptance.

The result shows that there a significant influence for the perceived complexity on the acceptance information technology usage. The value of R was (0.730) and R^2 (0.532) and the regression coefficient (beta) for perceived complexity is (0.237) ($p=0.000$). The result indicated that the null hypothesis can be rejected. Therefore, the alternative hypothesis stands.

This study finds that there is influence perceived complexity on the acceptance information technology usage. This result is inconsistent with the finding of the study to Selamat and Jaffar (2011), and Al-Gahtani (2003).

H4: computing support has influence on information technology acceptance.

The result shows that there a significant influence for the perceived computing support on the acceptance information technology usage. The value of R was (0.730) and R^2 (0.532) and the regression coefficient (beta) for perceived computing support is (0.278) ($p=0.001$). The result indicated that the null hypothesis can be rejected. Therefore, the alternative hypothesis stands.

This study finds that there is influence perceived computing support on the acceptance information technology usage. This result is consistent with the finding of the study to Selamat and Jaffar (2011).

H5: management support has influence on information technology acceptance.

The result shows that there a significant influence for the perceived management support on the acceptance information technology usage. The value of R was (0.730) and R^2 (0.532) and the regression coefficient (beta) for perceived management support is (-0.362) ($p=0.000$). The result indicated that the null hypothesis can be rejected. Therefore, the alternative hypothesis stands.

This study finds that there is influence perceived management support on the acceptance information technology usage. This result is consistent with the finding of the study to Selamat and Jaffar (2011).

Table 2. Regression results

Usage	R	R ²	Standard Error	Standard coefficient Beta	Sig.
	0.730	0.532			
(Constant)			0.059		0.000
Perceived usefulness			0.021	-0.047	0.613
Perceived ease of use			0.024	-0.711	0.000
Perceived complexity			0.015	0.237	0.000
Computing support			0.014	0.278	0.001
Management support			0.014	-0.362	0.000

9. Limitation:

Some of the information in this research reflect the judgment of applied science private university lectures whom provide the information used , so may be some personal bias happened , also part of sample were very conservative in providing information.

10. Recommendation:

Based on the results concluded, the researchers recommended the following:

1. Facilitate the acceptance of information technology by teaching lectures the benefits of such acceptance.
2. Enhance skills of teaching staff members at the fields of educational materials design and development for the use by modern IT methods.
3. Activate the use of IT at Jordanian universities in education to ensure its quality and increase its effectiveness.
4. provide the necessary technical and material potentials by the university departments to activate the acceptance of information technology

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