MODELING STUDENTS' INTENTION TO ADOPT E-LEARNING AT BADR UNIVERSITY IN EGYPT

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ABSTRACT

E-learning is becoming increasingly prominent in higher education, with universities increasing provision and more students signing up. This paper examines factors that predict students' intention to adopt e-learning at the Egyptian University of Badr in Cairo. Understanding the nature of these factors may assist Egyptian universities in promoting the use of information and communication technology in teaching and learning. Data was collected through a survey of 186 first, and second level students at the University of Badr in Egypt. The technology adoption model is utilized in this study. The results show that there are three factors that can be used in modeling students' intentions to adopt e-learning. These factors are attitudes toward e-learning, perceived usefulness of e-learning, and perceived ease of e-learning use.

INTRODUCTION

In order to provide the growing population of Egypt with quality, accessible, and abundant educational opportunities, both the government and the private sector are eager to develop alternative programs and delivery methods. The delivery of e-learning programs has been recognized as one of the essential alternative delivery methods for education and training available around the world (Beckstorm et al., 2004). The author's particular interest in this paper is in the personal decision made by students to adopt e-learning at Badr University in Cairo.

There are two research questions:

- To what extent do university students intend to adopt e-learning?
- What is the best group of factors that can be used in predicting students' intentions to adopt e-learning?

BACKGROUND

Electronic learning involves the use of electronic media for teaching and learning at a distance. (Engelbrecht, 2005).

Learning Management Systems (such as WebCT, and Moodle)refer to a set of tools that support online learning.

A learning management system can facilitate the:

- Delivery of course material,
- Running of on-line tests,
- Operation of discussion groups and live chat sessions.
- Provision of many other tools that help teaching staff work with students' marks, conduct group work, and process the submission and return of assignments.

- Students log in with their university username and password, and have access to courses in which they are enrolled. They can access the system from a campus computer lab or over the Internet from home.

E-learning in Developing Countries

Several distance learning approaches are available for the university education

- Correspondence courses Correspondence courses have been used since mid 1800's and are still highly effective in poor countries
- Combination of correspondence with radio: Radio is the dominant electronic communications device in the world, but sometimes cumbersome to use in distance education without adequate recording systems.
- Combination of correspondence with TV: TV is also popular but not as available as radio. Most African countries, for example have several hundred radio receivers per 1000 inhabitants but less than a third of that for TV.
- CDROM: CDROM has the advantage of combining the best of WWW and radio, but the disadvantage of requiring computers and computer skills.
- **The Internet:** Internet connectivity is a problem in the developing countries.

Ruth and Shi (2001), suggest that using simple technologies gradually lead to higher usage rates and ultimately to gradual leveraging of newer capabilities - a progression from correspondence courses to radio/TV courses, to some internet-based courses, and ultimately to virtual university.

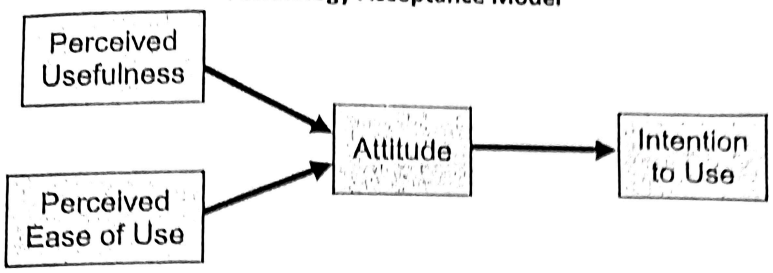
E-learning in Egypt

E-learning is considered as a means of alleviating conventional educational problems that faces Egypt. E-learning could provide solutions to problems such as overcrowded classrooms, and transportation problems. Fayek (2004) has reported on e-learning projects undertaken by the Ministry of Higher Education and the Ministry of Education. Examples were given of the Faculty of Engineering at Cairo University, with e-learning related activities such as conversion of textbooks to interactive CD-ROMs and pilot projects in virtual classrooms, the American University in Cairo is using WebCT as its learning management system (LMS) and providing a Centrefor helping the university members to convert their materials to web-friendly format.

E-learning Adoption

Several studies have been trying to identify factors that affect innovation adoption in business organizations. Davis, F.D. (1985) developed Technology Acceptance Model (TAM) to measure intentions to accept information technology.(TAM) was the first model to mention psychological factors affecting computer acceptance(Raaij&Schepers, 2006).The model assumes that both perceived usefulness (U) and perceived ease of use (EOU) of the new technology are central in influencing the individual's attitude towards using that technology. An individual attitude is hypothesized to influence the behavioral intention to use a technology, finally relating to actual use.

Technology Acceptance Model



Perceived usefulness can be defined as "the belief that using a particular system would enhance job performance"
Perceived ease of use can be defined as the belief that a particular system is effortless in use..
Attitude describes an individual's positive or negative feelings about using a particular system.
Intention indicates how hard people are willing to use a particular system (AJzen&Fishbein, 1980).

METHOD

In this section I will discuss: 1) the design of the survey instrument, 2) survey population and sample 3) data analysis and the results.

Designing the Instrument:

To accomplish the objectives of the study, the survey instrument was developed to gain as much information as possible regarding the factors that affect students' intentions to adopt e-learning. There are two sections in the questionnaire:

In ***Section One,*** a set of 16 items was used in the questionnaire, four of which refer to each of the following dimensions: *1- Attitude towards e-learning* (is represented by items 1,5,9, and 13,). *2- Intention to adopt e-learning* (is represented by Items 2, 6, 10, and 14). *3- Ease of E-learning Use* (is represented by items 3,7,11, and 15). *4- Usefulness* (is represented by items 4,8,12, and 16). Respondents were asked to rate their opinion about each item using 4-point Likert scale.

Section two was used to collect data about gender, level of study, and university's faculties. **The questionnaire was designed by second level business students at Badr University in Cairo under the supervision of the author.** The questionnaire was made available online so that students could complete it at home and send it back to the researchers.

Survey Sample

The sample subjects who participate in the survey are students at Badr University in their first, or second Level of study. Students were asked to complete the questionnaire online and send it back to the research group. 186 students completed the questionnaire with usable data. The following table provides data about gender, level of study, and the faculty to which students belong.

Simple Characteristics
(N = 186)

Gender

Male.....82
Female.....104
Total.....186

Level

Level 1.....77
Level 2.....109
Total.....186

Faculty

Applied Arts.....7
Business and Economics.....16
Dentistry.....74
Engineering.....1
Linguistics.....2
Pharmacy Clinic.....14
Pharmacy drug Manufacturing.....12
Physical therapy.....60
Total.....186

RESULTS AND ANALYSIS

Figure 1 shows that **91.4 %** of the respondents have the intention to adopt E-learning.

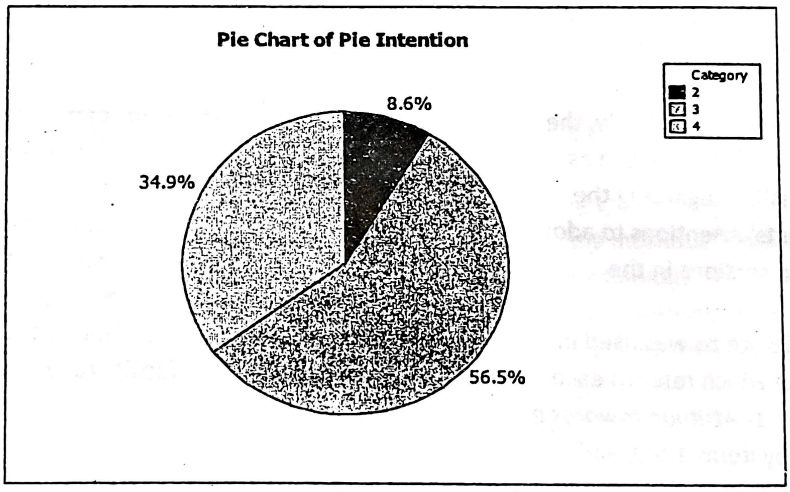


Figure 1: Intention to adopt E-learning

Table 1 shows the correlations between behavioral Intention, attitudes ease of use, and usefulness.

Table (1)

	Attitude	Ease of Use	Usefulness
Behaviour Intention	0.331 0.000	0.634 0.000	0.431 0.000

Table 2 shows that the most useful subset of variables that can be used in modelling students' intentions to accept e-learning includes Attitude (A), Usefulness (U), Ease of Use (EOU),

Table (2)

Stepwise Regression

Step	1	2	3
Constant	4.486	2.542	1.458
Ears of Use T-Value P-Value	0.662 11.13 0.000	0.615 10.30 0.000	0.559 8.77 0.000
Attitude T-Value P-Value		0.238 3.32 0.001	0.188 2.53 0.012
Usefulness T-Value P-Value			0.204 2.30 0.023
S R-Sq R-Sq(adj	1.56 40.24 39.92	1.52 43.63 43.01	1.50 45.22 44.32

The above table shows that the most useful subset of variables that can be used in modelling students' intentions to accept e-learning includes Attitude (A), Usefulness (U), and Ease of Use
(EOU).

DISCUSSION

Now, the research questions outlined in this study will be examined. The first question was concerned with measuring students' intention to adopt e-learning. The second question was concerned with determining the best subset of predictors that can be used in modeling students' intention to adopt e-learning. Regarding the first question, the results show that **91.4 %** of the respondents have the intention to adopt E-learning, and that represent a good market for e-learning at the University of Badr in Cairo. Regarding the second question, the results suggest that the best subset of predictors that can be used in

modeling a student intention to adopt e-learning includes: attitudes toward e-learning, usefulness of e-learning, and ease of e-learning use. Hence, program providers could focus on these factors that are expected to affect potential users' intention to enroll with e-learning programs when offered by the university.

As the results show, **91.4 %** of the respondents have the intention to adopt E-learning. That indicates that students have recognized that e-learning has become essential for their success. Therefore, it is of paramount importance that students actually use e-learning systems to the best extend possible.

E- Learning centre can make a difference by providing appropriate training to students and members of staff to make it easier for them to use e-learning in teaching and learning. If the high ICT infra structure for e-learning is unavailable, the sequential use of predecessor distance learning technologies from correspondence courses to radio, TV, CDROM, Internet and World Wide Web is recommended. Such a sequential use of predecessor distance learning technologies is poised to leverage that experience into a significant use of e-learning.

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