An Assessment of the Relationships of Awareness, Attitude, Satisfaction and Organisation Support Associated with E-learning and Organisation and Individual Performance

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INTRODUCTION

Most organizations are becoming more aware of the gained advantages of the outstanding potentiality of integration Web Technologies into their operations (Gefen, Karahanna, and Straub, 2003, Hestan, Sid and Fiju, 2003, Currie, 2000). By the same token, the Web Based Technologies led to the wide spread use of virtual Training and distant learning.

The due significant changes in training and education is evident through impressing statistics that indicate that about two thirds of the 3200 accredited American Universities that offer a 4 years college degrees and graduate studies, use the internet to offer a number of graduate courses (Clarke, 1999).There are projections that about 50% of the Training in USA, will be based on the internet Technology by few first years of the current century (Herther, 1997).

The ever increasing use of the Internet Based Technology in training and education is due to different reasons including the technological advances in application Programs and mathematical capabilities (Aluai, Yoo & Vogel, 1998). The increase in the number of people who have access to the internet (Borrow, McWilliams & Hof, 1998) and the intensity of competition and benchmarking (Kedia & Harveston, 1998) and to previous successes (Clarke, 1999, Cerco, 1999).

The estimations indicated that the income generated by the institutions that provide virtual and web based Training to the private and public organizations will clime to 11.4 Billion Dollars by the year 2003, compared to only 550 Million Dollars during the year 1998 (Weinstocks, 2000).
The estimations indicate also, that the investments in virtual Training reached 6 Billion Dollars in year 1999, compared to 100 million Dollars in year 1994(Minehan,1996).

THE THEORITICAL BACKGROUND

There is a pressing need for evaluation the effectiveness of the Web Based Training and e-learning Programs. This Study tests a model that explores the effectiveness of the e-learning services provided by Institute of banking Studies (IBS) at the state of Kuwait. The following figure (Figure 1) depicts the study model.

This study is exploratory in nature. There is no formal hypothesis presented however a set of questions will be addressed. The basic issue of the research paper is to test a model that assess the predictive power of a host of variables related to e-learning with respect to the organization and individual performance.

Research Questions
The research questions are as follows:

- What is the relationship between awareness (of the different facts related to e-learning and the attitudes toward e-learning) and between awareness and performance?

- What is the relationship between the attitudes toward the e-learning systems and the satisfaction with the system?
- What is the relationship between the attitudes toward the e-learning systems and the organization and individual performance?
- What is the relationship between the satisfaction with the e-learning systems and the organization and individual performance?

Figure 1 The Study Model
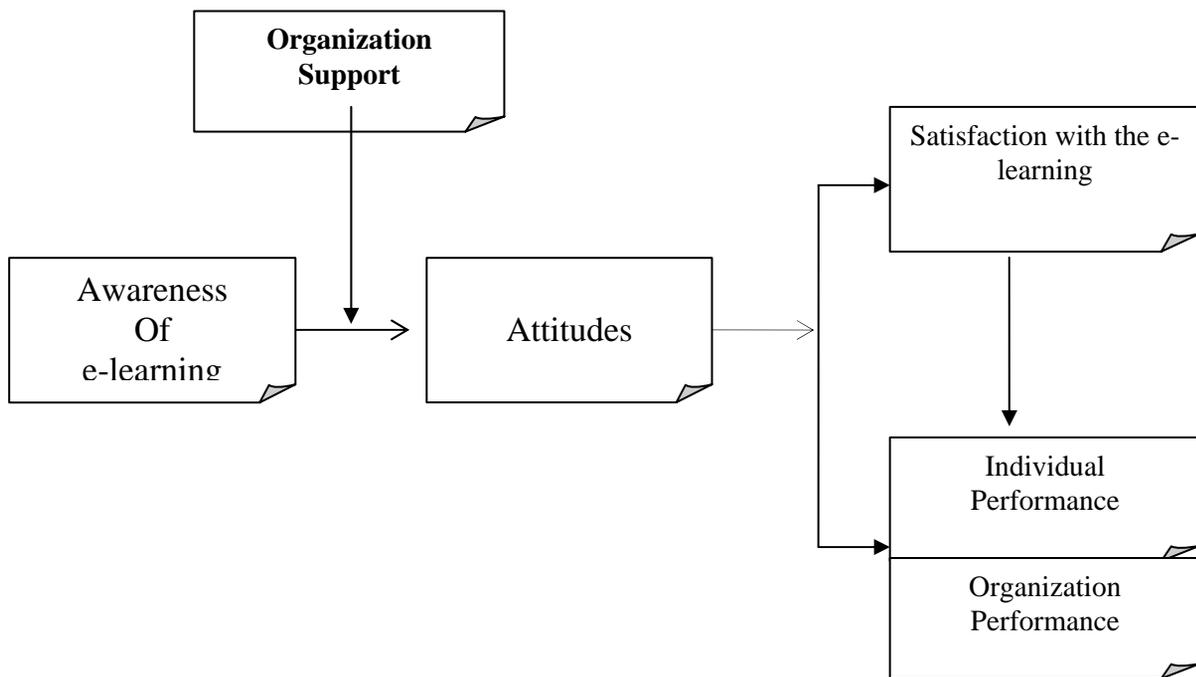
METHOD

Sample

The population of the study involves all employees of banking sector who are entitled to attend any of The Institute of Banking Services (IBS) e learning programs. The data were collected from a random sample of 197 employees have been selected for investigation, about 50% of the 395 employees who represent the whole population. Questionnaires were distributed by personal mail (through the mailing system of IBS and member banks) to all participants. There follow-up calls were maid. The questionnaire was retuned by 125 participants (32%). A check was made to uncover the demographic differences between the sample members and the other members of the population. There were no significant differences between the two groups. That is there was no significant differences between the two groups with respect to gender, age, education, work experience and job position.

Data Collection

The study relied upon both secondary and primary data. The secondary source included literature review. The primary data were collected via a questionnaire specially designed for this study. Questions were developed for each variable of the proposed model using a five point Likert type scale. A section on demographic data was also included (the demographic data were not included in the analysis of the data for the current study).

The Study Variables

The data were subjected to a confirmatory factor analysis, which supported the pre conceptualizations of the study variables. There is one factor representing each of the awareness of e-learning and organization support for e-learning. There is three factors representing the attitudes toward e- learning; namely attitudes toward flexibility and relevance, toward accessibility and technical dimensions. There is also, two factors representing the satisfaction with e-learning, namely satisfaction with the system design and with relevance to career. The performance items loaded into two factors; namely bank performance and individual performance. The following is the detailed operationalization of the study variables.

Awareness of e-learning

The awareness of e-learning included the awareness of the following items:
- The role of e-learning in developing skills
- The role of e-learning in developing knowledge
- The usefulness of e-learning in career development in the bank.

Organization Support

The organization support included the following items:
- The Bank's Management encourage e-learning through financial motivation
- The Bank's Management encourage e-learning through moral motivation.

Attitudes towards e-learning

There are three dimensions to the attitudes; flexibility and relevance to the needs of subjects, accessibility of the e-learning system and the technical dimensions of the e-learning system.

- Flexibility and Relevance include: Program flexibility, Clarity of content, Job relevancy of content and Degree of test and assessment difficulty.
- Accessibility include: Accessibility to services, Technical support from IBS and Internet speed.
- Technical Dimensions include Clarity of sound and Program length.

Satisfaction with e-learning

The satisfaction with e-learning includes two dimensions; the satisfaction with systems design and satisfaction with relevance to career.

- System design: the Program objectives, the Program contents, the expected outcome compared with the actual outcome and Practicality of application of skills gained from the Program.
- Relevance to career: Relevance of Program contents to your current job, Relevance of Program contents to your future job and Program role in helping you becoming accurate in providing better services to customers.

Performance

The performance was measure at the bank and individual levels.

- Bank Performance
  - Keeping up to date with the latest and banking technology.
  - Enhancing your competency
  - Helping you acquire practical tools useful to the bank
  - Helping you in improving your Bank's image
  - Helping you in increasing your Bank's competitiveness.

- Individual Performance
    - Helping you in providing a better customer service
    - Helping you increase your speed of performance
    - Increasing the degree of your work accuracy in providing customer services.

RESULTS

The examination of means, standard deviation and ranges of the study variables (not shown) indicates that all variables are above the mid-point of the five point Likert type scale. The range of the means is between 3.21 and 3.88. The correlation coefficient among the study variables (not shown) are mostly significant and of moderate magnitude. The range of the correlation coefficients is from .19 to .66, which indicates that the study variables are distinctive variables.

The relationships of awareness
To explore the relationship between awareness and each of the dimensions of attitudes and performance there were five regression models used that is one for each of the three attitude variables (flexibility and relevance, accessibility and technical dimensions) and one for each of the two performance variables (bank performance and individual performance). Two only of the regression models were significant. The awareness of E-learning can predict were attitudes toward flexibility and relevance (B = 0.29, p 0.001 and adjusted R^2 = 07. p0.001) and bank performance (B=.3, p 0.001and adjusted R^2 = 0.08, p 0.001). These results pertain to the first research question about the relationship between awareness and each of the attitude dimensions and performance dimensions.

The relationships of attitudes
To explore the relationship between attitudes and each of the satisfaction and of performance dimensions four regression models were used , two for satisfaction (satisfaction with system design and with relevance to career) and two for performance (bank performance and individual performance). The results of the two satisfaction models show that attitude variables have some significant regression coefficients. The attitude variables explain 0.48 of the variance in the satisfaction with systems design (adjusted R^2 = 0.48). Two only of the attitude variables have significant regression coefficients with the satisfaction with systems design, namely flexibility and relevance (B = 0.69, p 0.001) and accessibility (B = 0.24, p 0.001) Also, the attitude variables explain 0.13 of the variance in the satisfaction with the systems relevance to career (adjusted R square = 0.13). two only of the attitude variables have significant regression coefficient with the satisfaction with the systems relevance to career, namely flexibility and relevance (B = 0.47, p 0.001) and the technical dimensions (B = 0.26, p 0.001). it seems that the more powerful predictive attitude variable is the attitudes toward flexibility and relevance, since it has significant regression coefficients with both of the satisfaction variables.

The results of the two regression models that included performance as a dependent variable (not shown) indicated that the attitude variables explain 0.21 of the variance in the bank performance (adjusted R^2 = 0.21). Only one of the attitude variables has significant regression coefficient with the bank performance, namely the attitudes toward flexibility and relevance (B = 0.56, p 0.001). Also, the attitude variables explain 0.08 of the variance in the individual performance (adjusted R^2 = 0.08). Only one of the attitude variables has significant regression coefficient with individual performance, namely the attitudes toward flexibility and relevance (B = 0.40, p 0.001). these results further support the potency of the attitudes toward flexibility and relevance as a predicative variable of the variables of interest, that is satisfaction with the e-learning and the measures of performance. These results pertain to second and third research questions about the relationship between attitudes and each of the dimensions of satisfaction and of performance.

The relationship between Satisfaction with e-learning and performance
To explore the relationship between satisfaction with e-learning and performance. There were two regression models, one for each of the performance variables (bank performance and individual performance- not shown).

The satisfaction variables explain 0.31 of the variance in bank performance (adjusted R^2 = 0.31, p 0.001). Both of the satisfaction variables have a significant regression coefficient with bank performance that is the satisfaction with the systems design (B = 0.25, p 0.001) and the satisfaction with relevance to career (B = 0.38, p 0.001). Also, the satisfaction variables explain 0.26 of the variance in individual performance (adjusted R^2 = 0.26). Only one of the satisfaction variables has a significant regression coefficient with individual performance that is satisfaction with relevance to career (B = 0.53, p 0.001). These results tend to support the link between the satisfaction variables and performance with the exception of the relationship between the satisfaction with the systems design and the individual performance (B = 0.02 and not significant). These results pertain to the fourth research question, about the relationship between satisfaction and performance.

ADDITIONAL ANALYSIS

An analysis to explore the joint predictive power of attitude and satisfaction dimensions with respect to performance dimensions. The result if the standard regression analysis is depicted in table 1. There were two regression models, one for each of the two performance variables (bank performance and individual performance). The attitudes and satisfaction variables (three attitude variables and two satisfaction variables) explain 0.36 of the variance in the bank performance (adjusted R^2 = 0.36). Only two of the attitudes toward flexibility and relevance (B = 0.36, p 0.001) and the satisfaction with the systems design (B = 0.43, p 0.001) were significant. The attitude and satisfaction variables (three attitude variables and two satisfaction variables) explains 0.27 of the variance in the individual performance (adjusted R^2 = 0.27). Only one of the attitude and satisfaction variables has a significant regression coefficient with individual performance; namely the satisfaction with relevance to career (B = 0.52, p 0.001). These results indicate the superiority of the regression model that includes both the attitude and the satisfaction variables as predictors of the performance variables, compared to the regression model that includes only the attitude variables. The extended model (that includes the attitude and the satisfaction variables, table 1) explain 0.36 of the variance in the bank performance compared to only 0.21 of the variance explained by the regression model that includes only the attitude variables. By the same token the extended model (table 1) explain 0.27 of the variance in the individual performance compared to only 0.08 of the variance explained by the regression model that includes only the attitude variables. As well the extended model is superior to the model that includes only satisfaction variables as predictors of the performance variables. The extended model as indicated above explain 0.36 if the variance in the bank performance (table 1) compared to only 0.31 of the variance explained by the regression model that includes only the satisfaction variables indicated above. By the same token the extended model explains 0.27 of the variance in the individual performance (table 1) compared to 0.26 of the variance explained by the regression model that includes only the satisfaction variables indicated above. In conclusion the extended model that includes both the attitude and satisfaction variables is superior to the model that includes only one set of variables, namely the attitude variable only or the satisfaction variables only.

An analysis to explore the joint predictive power of awareness, attitudes and satisfaction dimensions with respect to performance dimensions. The results of regression model that includes the awareness, attitude and satisfaction variables as independent variables are very similar to the results reported in table 1, which includes only the attitude and satisfaction variables as independent variables. In other words including awareness variables in the model in addition to the attitude and satisfaction variables does not improve the predictive power of the model.

An analysis to explore the joint predictive power of awareness, organization support, attitudes and satisfaction dimensions with respect to performance dimensions. To explore the effect of the organization support the regression model include the awareness, organization support, attitudes and satisfaction variables as independent variables that explain the variance in the performance variables (not shown). The results of this model indicate that including the organization support in the model did not have an improvement in terms of the variance explained in the bank performance compared to the model that includes only the attitude and satisfaction variables as independent variables (0.36 and 0.35 for the two models respectively). However the model that include the organization support in addition to the awareness, attitude and satisfaction variables as independent variable is slightly superior to the model that includes only the attitude and satisfaction variables in terms of the variance explained in the individual performance (adjusted R^2 square of 0.29 and of 0.27 for the models respectively). These results seem to suggest that organization support is important only with respect to individual performance.

DISCUSSION

The outstanding potentiality of e-learning can only materialize if there is careful examination of the determinants of its effectiveness. The current study is a step on that direction. This study results indicate that significant portions of the variance in bank performance (Adjusted R^2 = 0.36, table 1), & individual performance (Adjusted R^2 = 0.27, table 1) can be explained by attitudes toward and satisfaction with e-learning systems.

Table 1 Summary of Standard Regression Analysis for Attitudes and Satisfaction Variables Predicting Performance Variables

Attitude and Satisfaction Variables	Performance			
	Bank Performance		Individual Performance	
	B	SEB	B	SEB
Flexibility and Relevance	0.36**	0.13	0.21	0.14
Accessibility	-0.02	0.09	-0.05	0.09
Technical Dimensions	-0.04	0.12	-0.05	0.12
System Design	-0.04	0.15	-0.08	0.15
Relevance to Career	0.43**	0.12	0.52**	0.12
Model stat.				
R	0.62		0.55	
R^2	0.38		0.30	
Adjusted R^2	0.36		0.27	
F	13.88**		9.48**	

- $P < 0.05$
- $P\ 0.001$

The results indicate, also, that attitudes toward the e-learning system explain significant portions of the variance in satisfaction (Adjusted R^2 = 0.48 for the satisfaction with systems design, Adjusted R^2 = 0.13 for satisfaction with relevance to career). A straight forward implication of these results is that educational and training institutes should build positive attitudes towards e-learning systems, in order to increase satisfaction with these systems which is associated with improvements in organization and individual performance.

This study results suggest the special importance of the subjects' attitudes toward the flexibility and relevance of the e-learning systems. This specific attitude was significantly correlated with satisfaction dimension (B = 0.69, p < 0.001, with satisfaction with systems design, B = 0.47, p < 0.001

with satisfaction with relevance to career). As well this specific attitude was significantly correlated with the performance dimensions (B = 0.56, p <0.001, with bank performance B =
0.40, p < 0.001, with individual performance). These results indicate the special importance of the e-learning Program flexibility, clarity of content, Job relevancy of content and the appropriateness of the level of difficulty in test and assessment of subjects.

The awareness of the e-learning systems contributed to attitudes toward them which suggest that the focal institutions should contribute to the subjects/students/trainees awareness of the different relevant facts of e-learning systems. This study finding also indicates the importance of organization support to individual performance. The organizations encouragement of e-learning through financial and moral motivation is associated with improvement in individual performance.

The overall results of this study lend some support to the proposed model. As indicated above the study variables explain a significant portion of the variance in performance. However, the methodology and statistical analysis adopted in this study do not justify any causal relationships. The study findings suggest mere associations.

Future studies should include different methodologies that permit exploring the causal relationships and should include the examination of the effects of the demographic variables. The replications of this study with different populations would provide credence to the study results

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