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Modeling the antecedents of internet banking service adoption (IBSA) in Jordan: A Structural Equation Modeling (SEM) approach

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Abstract

After ten years from the introduction of the Internet Banking Services (IBS) by Jordanian banks, the adoption of these services is still quite low. Hence, identifying success factors (SF) to improve the level of IBS adoption is crucial. This paper is concerned with an empirical investigation of success factors that could predict successful IBSA in Jordan through applications of Innovation Diffusion Theory (IDT). The research model consists

of six exogenous variables: perceived ease of use, perceived usefulness, compatibility, trialability, trust and awareness and one endogenous: IBSA. 700 questionnaires survey among university staff was implemented and 532 data sets were collected. This represents 76% response rate. After rigorous data screening process such as outliers, normality, reliability and validity, 517 data is ready for structural equation modeling (SEM) analysis. Confirmatory Factor Analysis (CFA) was performed to examine the composite reliability, convergent validity and goodness of fit of individual construct and measurement models. The revised structural model demonstrates significant and positive direct relationships between all of six exogenous variables and IBSA.

Keywords: **DOI, Internet Banking Service Adoption, Jordan**

INTRODUCTION

Internet banking service innovation has been implemented in the Jordan banking sector since the year 2000. In doing so, Jordan banks have spent millions of US dollar to upgrade their internet technology services (ABJ, 2009). However, evidence shows that the internet banking usage is still low, i.e. only two percent of the customers use e-commerce and internet banking in Jordan (IREX, 2008), compared to 3.42 percent internet users (ITU, 2009).

IBSA is defined as “the use of technology to communicate instructions and receive information from a financial institution where an account is held. This service includes the system that enables financial institution customers, individuals or business to access accounts transact business, or obtain information on financial products and services through a public or private network” (Prakash and Malik, 2008, P.84). From the theoretical perspective, several empirical studies had focused on the factors that could impact IBSA (Tan & Teo, 2000; Shih & Fang, 2004; Nor & Pearson, 2008). However, these studies were fragmented and fail to capture the success factors of IBSA holistically. Summatively, the IBS literature suggests six success factors or constructs for IBSA (perceived ease of use, perceived usefulness, compatibility, trialability, trust, and awareness) for this study. Furthermore, these prior studies have produced mixed results which have culminated to the difficulty in articulating the main salient drivers for internet banking service adoption. Additionally, this study intends to use the Innovation Diffusion Theory (IDT) (Rogers, 1983) as the underpinning theory since it has not been used in Jordan or in the Middle East. Thus, this study intends to fill this gap by investigating the success factors (perceived ease of use, perceived usefulness, compatibility, trilability, trust, awareness) on IBSA in Jordan.

LITERATURE REVIEW

The research framework of this study is based on the adaptation of Innovation Diffusion Theory (IDT) first developed by Rogers (1983) (Figure 1). IDT suggests five key beliefs (relative advantage, compatibility, complexity, trialability, and observability) that could influence individuals to adopt an innovation. Relative advantage is defined as “the degree to which an innovation is perceived as being better than the idea it supersedes”.

In other words, the concept of relative advantage is similar to the concept of perceived usefulness (Moore & Benbasat, 1991; Taylor &Todd, 1995). According to Rogers (1983), relative advantage requires the adopter to analyze the costs and benefits of using an innovation, which can be expressed economically, socially, or in other ways. Is argument, this study replaces relative advantage with perceived usefulness. Based on Compatibility is defined as "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and the needs of potential (p. 224)." Compatibility is evaluated relative to the adopter's socio-cultural values and beliefs, previously introduced ideas, and client needs for innovation. Difficult to understand and use (p. 242), Trialability is defined as "the degree to which an innovation may be experimented with on a limited basis (p. 243)." Trialability allows individuals to "test drive" an innovation before it is being adopted. Both compatibility and trialability will be used as it is for this study. Complexity reflects the level of physical or mental efforts necessary to use an innovation. Accordingly, complexity is the opposite of perceived ease of use (Moore & Benbasat, 1991; Taylor &Todd, 1995). Thus perceived ease of use replaces complexity). The final belief in IDT is observability, which is defined as "the degree to which the results of an innovation are visible to others (p. 244)." But this factor was excluded for this study mainly due to the nature of the targeted technology chosen i.e., Internet banking. We feel individuals typically do banking transactions privately. The acts are not observable and visible to others (Tan and Teo, 2000).

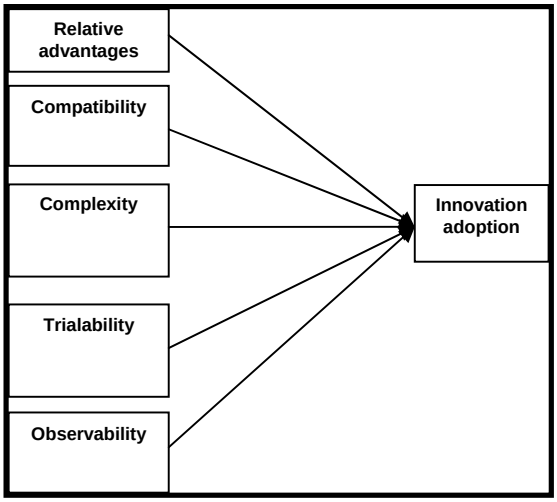

Figure 1: Innovation Diffusion Theory (IDT) Source (Rogers, 1983)

RESEARCH FRAMEWORK

As discussed above, our research framework proposed for this study is not exactly the same as the IDT model (Figure 2). Besides maintaining four of the IDT variables, two more variables were added i.e. trust and awareness. This is so because several past studies have found that the perceived trust and awareness of IBS have found significant relationship with IBSA. The following literature review will explain each linkages and gaps further.

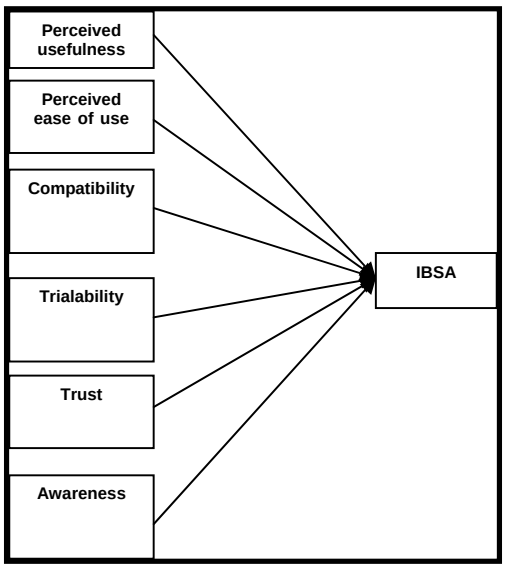

Figure 2: Research Framework

PERCEIVED USEFULNESS AND IBSA

Davis (1989) defines perceived usefulness as ‘‘the degree to which an individual believes that using a particular system would enhance his/her job performance’’. This relationship has established mixed findings. Most of the previous studies found positive significant linkages (Pikkarainen, Pikkarainen, Karjaluoto & Pahnila, 2004; Eriksson, Kerem & Nilsson, 2005; Yiu, Grant & Edgar, 2007; Gounaris & Koritos, 2008; Ozdemir & Trott, 2009), while one study found insignificant effect (Yu & Lo, 2006). Hence, this study hypothesizes positive linkage as follows:

H1. Perceived usefulness has significant and positive influence on IBSA.

PERCEIVED EASE OF USE AND IBSA

Davis (1989) defines perceived ease of use as ‘‘the degree to which an individual believes that using a particular system would be free of physical and mental effort’’. In IBSA context perceived ease of use appears as important factor was employed in several past studies. But these past studies have presented the relationship between perceived ease of use and IBSA as inconsistent result, for example this relationship found to have a significant effect on IBSA in past studies related to Sohail & Shanmugham (2003); Yu & Lo (2006); Yiu, Grant & Edgar, (2007); Gounaris & Koritos (2008); Ozdemir and Trott (2009). On other hand, this relationship was found to be insignificant in other studies (Eriksson, Kerem & Nilsson, 2005; Hernandez & Mazoon, 2007; Pikkarainen, Pikkarainen, Karjaluoto & Pahnila, 2004). Hence, this study hypothesizes positive linkage as follows:

H2. Perceived ease of use has significant and positive influence on IBSA.

COMPATIBILITY AND IBSA

Compatibility refers to "the extent to which the innovation is perceived as superior to all other options" (Rogers, 1983; 1995). Several researchers showed that compatibility is one of the main determinants for the innovation spread process with the high compatibility perceived by the individuals leading to the speedy adoption of any new ideas or technologies in general and IBSA in specific This relationship has established mixed findings. Most of the previous studies found positive significant linkages and found that the compatibility significantly effects IBSA (Kolodinsky & Hilgert, 2004; Hernandez & Mazoon, 2007; Eriksson, Kerem & Nilsson, 2008). While only one study in IBSA context found that the compatibility effects IBSA insignificantly (Gounaris & Koritos, 2008). Hence, this study hypothesizes positive linkage as follows:

H3. Compatibility has significant and positive influence on IBSA.

TRIALABILITY AND IBSA

Rogers (1983) suggests that the triability contributes to achieving some sort of comfort among the customers and the users who may later become more willing to adopt this innovation. Also previous studies indicate that if the user got the chance to try a new technology, this would lessen his feelings of fear concerning the usage of this technology (Tan and Teo, 2000). The relationship between trilability and IBSA was found to be inconsistent. However, Trialability was found have a significant effect on IBSA in past studies (Hernandez & Mazoon, 2007). Also this relationship was found have an insignificant effect on IBSA in other studies (Duda, Santhapparaj, Asirvathem & Raman, 2007). Hence, this study hypothesizes positive linkage as follows:

H4. Trialability has significant and positive influence on IBSA.

PERCEIVED TRUST AND IBSA

Many researchers indicate that the issue of trust is more important in internet banking because transactions of this nature contain sensitive information and parties involved in the financial transaction are concerned about access to critical files and information transferred via the Internet (Alsajjan and Dennis, 2006; Suh and Han, 2002). From the literature we found that the relationship between perceived trust and IBSA has established mixed findings. Several past studies found that the relationship between perceived trust and IBSA was a significant effect. (Liao & Cheung, 2002; Sohail & Shanmugham, 2003; Eriksson, Kerem& Nilsson, 2005; Yu & Lo, 2006; Guerrero, Egea & Gonzalez, 2007). Alternatively, Duda, Santhapparaj, Asirvathem and Raman (2007) found that the perceived trust positively affects IBSA but not significantly. Hence, this study hypothesizes positive linkage as follows:

H5. Trust has significant and positive influence on IBSA.

AWARENESS OF IBS AND IBSA

The previous empirical studies in internet banking area found that awareness of the benefits and advantages of IBS will influence significantly on the customers to adopt IBS (Sohail & Shanmugham, 2003). This has been asserted by another past study which

showed that the lack of awareness of IBS and its benefits are found to be reasons for consumers' reluctance to use the IBS offered by banks (Sathye, 1999; Howcroft, Hamilton & Hewer, 2002). On the other hand, the researcher found one study in internet banking area that revealed had awareness had an insignificant effect on IBSA, this study is related to Prakash & Malik (2008). From the dissections above we observe that the relationship between awareness and IBSA has inconsistent or mixed results. Hence, this study hypothesizes positive linkage as follows:

H6. Awareness has significant and positive influence on IBSA.

From the literature discussion above, we found that the six constructs (perceived ease of use, perceived usefulness, compatibility, trilability, trust, and awareness) mostly have a significant direct impact on IBSA and it could be said that all of them are success factors for IBSA, but there are limited empirical studies that found these constructs to have insignificant effect on IBSA. However, these prior studies on internet banking adoption factors have produced mixed results, which have culminated to the difficulty in articulating the internet banking adoption drivers.

METHODOLOGY

This is a field study consisting mainly of a quantitative approach to research. The unit of analysis is bank consumers sampled by university staff of four public universities in Jordan.

QUESTIONNAIRE DESIGN AND MEASUREMENT SCALE

The questionnaire for this study consists of three parts: Part one consists of a cover letter explaining title of the study and the purpose of this questionnaire; Part two consists of demographic questions about the respondents demographic profile; and finally Part three contains the seven latent constructs that are hypothesized to influence IBSA in Jordan totaling thirty (30) items. These constructs were adopted from previous banking studies thus, exploratory factor analysis is omitted. The measures are (1) IBSA is measured by six items (Shih & Fang 2004; Raman, Stephenaus, Alam & Kuppusamy, 2008); (2) perceived usefulness is measured by six items adopted from Lai and Li, (2005); (3) perceived ease of use is measured by four items adopted from Ho and Ko, (2008); (4) compatibility is measured by six items adopted from Nor & Pearson, (2007); (5) trialability is measured by six items adopted from Nor & Pearson, (2007); (6) trust is measured by six items adopted from Suh and Han, (2002); and finally (7) awareness is measured by four items adopted from Al-Somali, Gholami and Clegg, (2009). Seven-point Likert scale with anchors from (1) strongly disagree to (7) strongly agree respectively, was used for all items.

SAMPLE OF STUDY

To examine the success factors that could influence IBSA of bank customers in Jordan, the sample (employees) was taken randomly from telephone directories of the four selected public universities in Jordan. They are selected because it is customary for employees of these universities to have bank accounts since their salaries are paid through the banks. Also, they have access to the internet and therefore may have used

internet banking services before. The universities selected are: (1) Jordanian University, (2) Jordanian-Germania University in the Middle of Jordan, (3) Yarmouk University in North of Jordan and (4) Mu'tah University in the South of Jordan. The survey was conducted from the 1st of September to the 1st of December 2009 (around twelve weeks). The researcher distributed seven hundred (700) questionnaires to the respondents who returned 565 of the questionnaires while one hundred thirty five (135) questionnaires were unreturned. Another 33 questionnaires were incomplete leaving five hundred thirty two (532) questionnaires for further analysis or 76% response rate.

DATA SCREENING AND ANALYSIS

The 532 dataset were coded and saved into SPSS version 15.0 and analyzed using AMOS version 6.0. The data were carefully examined for missing data. It was discovered that nineteen (19) questionnaires or 3.3 percent have missing responses. However, the missing cases were treated with replacement of mean so none was deleted. This method is considered to be viable by several scholars (e.g. Hair et al., 2006). Next, inspection of Mahalanobis distance (D2) was conducted to identify outlier cases. Outlier result shows that 15 dataset were deleted due to D2 values greater than $\chi 2$ value. For univariate normality test, Z-skewness scores greater than +3 or -3 were absent. Thus, each item is considered to be normal data (Coakes & Steed, 2003). Thus, only five hundred seventeen 517 questionnaires remained for final analysis.

Subsequently, several statistical validity tests were then conducted such as reliability test, composite reliability tests, confirmatory factor analysis (CFA) for construct convergent validity, discriminate validity for multicollinearity treatment, descriptive analysis and correlation. Hereafter, Structural Equation Modeling (SEM) analysis using AMOS 6.0 was conducted. SEM is selected because SEM, through the use of confirmatory factor analysis to minimize measurement error through to the multiple indicators per –latent variable, has the ability to estimate both direct and indirect effects, and it is a testable model and it also has the ability to ensure consistency of model with data and to estimate effects among constructs. The SEM analysis produces three structural models namely hypothesized structural model, revised model and competing model.

FINDING

DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Most of the respondents were male (73.7%) compared to female (26.3%). This is expected in a male dominant country like Jordan. Their ages range from 31 to 40 years. About 80% of respondents were married, the majority (73.9%) lives in the Jordanian cities and about 40% have a Bachelor degree. About 55% work at managerial level in the university and more than half (57.4%) of respondents have salaries between 501-1000 JD. On the usage of internet technology, 63% have used the internet technology for period of 6-10 years, while 44% of respondents have used IBS for period between 3-5 years. Most of the respondents indicate that they know about IBS in Jordan from mass media and access the IBS from their homes. Finally the finding shows that the Jordanians use IBS mostly for balance enquiry, bill payment, money transfer, loan

application, downloading information and investment activity services respectively.

DESCRIPTIVE STATISTICS OF VARIABLES

Table 1 indicates that the seven constructs, six exogenous (perceived ease of use, perceived usefulness, compatibility, trilability, trust, awareness) and one endogenous (IBSA) have both Cronbach alpha and composite reliability of above 0.60. This implies that the measurement scales for all variables are internally consistent and reliable (Nunnally, 1970).

Table 1: Descriptive statistics of variables

Variable	Code	No. items	Mean	S. D	Reliability (C/alpha)	Composite R
IBSA	IBSA	6	4.6431	.65315	.789	.764
Perceived usefulness	PU	6	4.6689	.64160	.765	.738
Perceived ease of use	PEOU	4	4.6586	.54680	785	.834
Compatibility	COM	6	4.5700	.62507	.819	.877
Trialability	TRIL	6	4.7405	.93580	.824	.798
Trust	TRUS	6	4.6454	.64939	.848	.868
Awareness	AWAR	4	4.6116	.66451	.771	.678

CONFIRMATORY FACTOR ANALYSIS (CFA) RESULTS

From the confirmatory factor analysis result in Table 2, we observed that the factor loadings of all observed variables or items are adequate, ranging from 0.38 to 0.92. In this study, the "cut-off" point chosen for significant factor loading is 0.30, the minimum level required for a sample size of 350 and above as suggested by Hair et al. (2006, p 128). This indicates that all the constructs conform to the convergent construct validity test. As shown in Table 2, the remaining numbers of items for each construct are as follows: IBSA (4 items), perceived usefulness PU (4 items), perceived ease of use PEOU (4 items), compatibility COM (4 items), trilability TRIL (5 items), trust (TRUS) (4 items), awareness (AWAR) (3 items) and total item remaining is 28.

Table 2: Final confirmatory factor analysis results of all constructs

Variables code	Item code	Items	Factor loading
IBAS	IBSA1	I am using internet banking all the time	.82
	IBSA2	I often use internet banking	.66
	IBSA3	I find internet banking is useful for managing my financial matters	.83
	IBSA4	I believe internet banking is an easy way to conduct banking activities.	.56
PU	PU3	I can accomplish my banking tasks more quickly using Internet Banking.	.51
	PU4	I can accomplish my banking tasks more easily using Internet Banking. Internet	.70
	PU5	Banking enhances my effectiveness in utilizing banking services.	.68
	PU6	Internet Banking enhances my efficiency in utilizing banking services	.71
PEOU	PEOU1	I find that Internet banking is easy to use	.44
	PEOU2	It is easy to find financial services on Internet banking	.38
	PEOU3	It is easy for me to learn how to make use of Internet banking	.92
	PEOU4	It is easy for me to be skillful at using Internet banking	.89

Comp	Comp2	Using internet banking services fits well with the way I like to manage my Finance	.63 .58
	Comp3	Using the internet to conduct banking services transaction fits into my working style	.81 .60
	Comp4	I think internet banking services fits well with all aspect of my banking activities	
	Comp6	Internet banking fits my needs	
Tril	Tril1	Before deciding on whether or not to use internet banking services, I want to be able to properly try it out	.65
	Tril2	Before deciding on whether or not to use internet banking services, I want to be able to use it on a trial basis to see what it can do	.69
	Tril3	Before deciding on whether or not to use internet banking services, I want to be able to experiment with it as necessary	.59
	Tril5	I want to internet banking services to be available to me to adequately test run its services before deciding on whether or not to use it	.74
	Tril6	It is permitted to use internet banking services on a trial basis long enough to see what it can do	.75
Trust	Trus3	internet banking is trustworthy	.58
	Trus4	when I need conduct banking activates , I would feel comfortable depending on internet banking for the services	.71
	Trus5	I feel that I could trust internet banking to conduct my banking activities	.82
	Trus6	I think my information is kept confidential when I use internet banking	.68
Aware	Awar1	I receive enough information about online banking services	.41
	Awar3	I receive enough information about the benefits of online banking	.78
	Awar4	I receive enough information of using online banking	.83

DISCRIMINANT VALIDITY OF CONSTRUCTS

Discriminant validity refers to observed constructs should not be highly correlated to each other (multicollinearity). In other words, observed variables should be discriminating or distinct (Campbell & Fiske, 1959). To support discriminant validity, average variance extracted (AVE) should be more than the correlation squared (Fornell & Larcker, 1981). Table 3 shows the result of the calculated variance extracted (VE) to support discriminant validity of constructs. Average variance extracted (AVE) is the average VE values of two constructs (Table 3). The VE is derived from the calculation of variance extracted using the following equation:

Variance Extracted = $$\frac{\sum\left(s\tan dardized\ SMC^2\right)}{\sum\left(s\tan dardized\ SMC^2\right)+\varepsilon\sum j} \quad (1)$$

Consequently, each AVE value (Table 3) is found to be more than correlation square (Table 4), thus discriminate validity is supported i.e. multicollinearity is absent.

Table 3: Variance extracted of variables

Observed Variables	Variance Extracted
IBSA	**.552**
PU	.520
PEOU	.732
COM	.786
TRIL	.620
TRUS	.798
AWAR	.506

Table 4: Correlation & correlation square (in parentheses) matrix among variables

	PU	AWAR	TRUST	TRIL	COMP	PEOU	IBSA
PU	1.000						
AWAR	.186(.034	1.000					
TRUST	.442(195)	.148(.021)	1.000				
TRIL	.454(206)	.157(.024)	.598(.357)	1.000			
COMP	.083(006)	.037(001)	.246(.060)	.274(.075	1.000		
PEOU	.291(084)	.256(.065)	.359(.128)	.404(.163	.184(.033	1.000	
IBSA	.462(213)	.315(099)	.491(241)	.504(.254	.258(.073	.409(.167	1.00

GOODNESS OF FIT INDICES

Confirmatory factor analysis was conducted on each individual construct and measurement models (see Table 5). All CFAs of constructs produced a relatively good fit as indicated by the goodness of fit indices such as CMIN/df ratio (<2); p-value (>0.05); Goodness of Fit Index (GFI) of >.95; and root mean square error of approximation (RMSEA) values of less than .08 (<.08) (Hair et al., 2006; Bagozzi & Yi, 1988). Table 6 shows the goodness of fit of generated or re-specified structural model is better compared to the hypothesized model.

Table 5: Goodness of fit analysis-confirmatory factor analysis (CFA) (N =517)

V/Code	Items remain	p-v	RMESA	DF	CMIN (x2)	CMIN/df	GFI	CFI	TLI
IBSA	4	.053	.061	2	5.866	2.933	.994	.995	.984
PU	4	.006	.079	3	12.613	4.204	.988	.979	957
PEOU	4	.026	.064	3	9.298	3.099	.992	.992	.983
Comp	4	.035	.060	3	8.605	2.869	.992	.988	.976
TRIL	5	.199	.030	5	7.301	1.460	.994	.997	.994
TRUS	4	.344	.012	2	2.137	1.068	.998	.999	.999
AWAR	3	.119	.053	1	2.425	2.425	.997	.996	.988

Table 6 shows that the goodness of fit of revised model is better compared to the hypothesized model. This is expected as hypothesized model could only be strictly confirmatory (Hair et al., 2006).

Table 6: Revised model and hypothesized model results

Indicators	Revised model	Hypothesized model
CMIN	130.024	2184.023
Df	114	644
CMIN/DF	1.141	3.391
p-value	.145	.000

GFI	0.973	0.811
CFI	0.993	0.806
TLI	0.990	0.788
NFI	0.945	0.747
RMESA	.017	.068

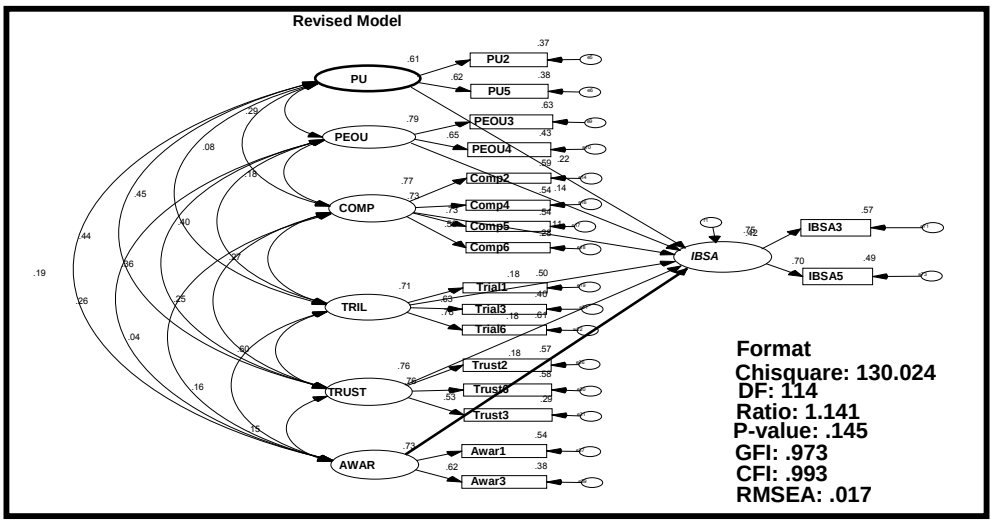

Figure 3: Final Revised Model

HYPOTHESES RESULTS

Since the hypothesized model did not achieve model fit (p<.000), therefore, the explanation of hypotheses result is based on Revised Model (RM) which achieved model fit of p-value=0.064 (> 0.05) (Figure 3). The revised model produces regression standardized estimates direct effects readings (Beta) as shown in Table 7. All hypotheses are supported i.e. all direct paths are significant and positive (C.R. values > +/-1.96; p-value < 0.05).

Table 7: Direct impact Revised Model (RM): Standardized regression weights

H	Exog		Endo	Std.estim	C.R	P	Statue	Evidence
H1	**PU**	→	**IBSA**	.216	2.510	.012	**Sig**	**Supported**
H2	**PEOU**	→	**IBSA**	.141	2.024	.043	**Sig**	**Supported**
H3	**COM**	→	**IBSA**	.113	2.001	.045	**Sig**	**Supported**
H4	**TRIL**	→	**IBSA**	.181	2.165	..030	**Sig**	**Supported**
H5	**TRUS**	→	**IBSA**	.183	2.269	.023	**Sig**	**Supported**
H6	**AWAR**	→	**IBSA**	.180	2.807	..005	**Sig**	**Supported**

Table 8 indicates that the seven exogenous variables (perceived ease of use, perceived usefulness, compatibility, trilability, trust, awareness) jointly explained 42.4% variance in IBSA.

Table 8: Squared multiple correlation results

Endogenous Variable	Squared multiple correlation (SMC) = R^2
IBSA	*42.4%*

DISCUSSION

This study is concerned with an empirical investigation of success factors that could affect a successful internet banking services adoption (IBSA) in Jordan through Applications of Innovation Diffusion Theory IDT). The Revised Model (RM) indicates that the IDT has accomplished model fit and supports all six direct paths.

As hypothesized (H1), perceived usefulness was found to have a significant positive effect on internet banking adoption IBSA (β=.216; CR=2.510; p=.012). A large standardized coefficient as compared to other factors suggests its larger contribution in influencing the IBSA. This result was supported by several empirical studies in IBS related area (Yiu, Grant & Edgar, 2007; Gounaris & Koritos, 2008; Ozdemir & Trott, 2009).

Perceived ease of use (β=.141; CR=2.024; p=.043) was also found to have significant effect on IBSA. The finding implies that the banks need to make internet banking services easy to use. One interesting aspect the finding shows is that the lower effect of perceived ease of use as compared to perceived usefulness on IBSA. The finding of the affects of perceived ease of use on IBSA was put forward by several previous researchers (Prakash & Malik, 2008; Gounaris & Koritos, 2008; Ozdemir and Trott, 2009).

The third hypothesis suggests a positive relationship between compatibility and IBSA (β=.113; CR=2.001; p=.045113). The finding shows that compatibility is another success factor that has significant effect on IBSA. This could mean that the customers perceive the internet banking services as new services which accomplish their existing values and their needs. This result is similar to the finding reported in Hernandez & Mazoon, (2007; Eriksson, Kerem & Nilsson, (2008).

This study found that trialability has a significant positive effect on the IBSA (β=.181; CR=2.165; p=.030). This finding suggests that a positive and successful IBSA can be formed if potential users have the opportunity to test-drive the technology. To encourage the acceptance, banks should allow potential customers to try Internet banking by providing step-by-step demonstration on how to use Internet banking on their website. This result is consistent with previous result in past study (Hernandez & Mazoon, 2007).

Perceived trust was found to have significant effect on IBSA (β=.183; CR=2.269; p=.023). This finding confirms that the IBS customers in Jordan were trusting in IBS, but

the banks need to develop strategies that could improve the customers trust in the underlying technology. Strategies may include development of security technology, embracing encryption and firewall technology and working closely with online security firms. This may reduce the perception of Internet banking as uncertain and unsafe. Previous finding support the findings of this study (Yu & Lo, 2006; Guerrero, Egea & Gonzalez, 2007; Padachi, Rojid & Seetanah, 2008).

Finally, this study shows that awareness is the most important factor that has a positive and significant effect on IBSA (β=.180; CR=2.807; p=.005). Awareness appears to be a very important factor among the seven factors probably because banks need to practice more promotion and awareness campaign through media advertising and pamphlets. This will encourage the customers to adopt IBS efficiently and more frequently in Jordan. Similar findings were obtained by Sohail and Shanmugham (2003) who found that the awareness of IBS will increase the success of internet banking services offered.

CONCLUSION

This paper aims to develop new model based on Innovation Diffusion theory (IDT) (Rogers, 1983), by investigating the factors that could encourage the customers to adopt internet banking services in Jordan. All six variables in this study (perceived ease of use, perceived usefulness, compatibility, trialability, trust, awareness) were found to have significant effect on IBSA, which could suggest that these could be the key success factors for internet banking services adoption in Jordan.

The main strengths of this study are its derivation of its factors from previous conceptual and empirical research by focusing on that factors that have the most significant effects on IBSA area. Future studies could investigate other factors such as self-efficacy and the services quality. It could also extend to the usage of other underpinning theories such as Technology Acceptance Model (TAM) or Theory of Planned behavior (TPB). The study could also extend to include other countries operating in similar conditions to see if comparable results could be achieved.

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