Factors Affecting the Adoption of Internet Banking in Jordan:
An Extended TAM Model

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This study aims to investigate how customers perceive and adopt internet banking (IB) in Jordan. An extended Model, based on the Technology Acceptance Model (TAM), was developed. Three more constructs were added to the Model, namely; Perceived Risk (PR), Perceived Trust (PT) and Bank Credibility (BC). To empirically test the Model's ability to predict customers' intention to adopt and use internet banking, a questionnaire was developed and used. A randomly 500 graduate students at four Jordanian Universities were surveyed. An exploratory factor analysis, correlation matrix, and a regression analysis were used to test the robustness of the model as well as to test the hypothesized relationships among variables. The results provide support to the extended TAM model and confirm its robustness in predicting customers' intention to adopt and use internet banking. This study contributes to the body of literature about internet banking, and its results provide useful information for bank managers on how to deal with internet challenges in Jordan. Since this empirical study was performed with a time constraint, it is not without limitation.

INTRODUCTION

For more than 40 years banks have been using electronic fund transfers (EFT) to transmit account information over private communication networks. Banks have also been engaging in an electronic data interchange (EDI) to transmit computer readable data in a standard format to other banks (Schneider, 2011). Internet banking is a new concept of conducting banking transactions and has captured the interest of many banks as an alternate way to traditional banking is a highly information intensive activity that depends heavily on information technology to acquire, process and deliver financial information to all users. Information technology advances have made significant operational changes to internet banking. (Maenpaa, et.,al, 2008). The Web has existed and made the Internet Banking promising for many businesses and individuals. These quick developments of internet and electronic banking have motivated the banking sector to encourage customer to bank over the internet (You, et, al, 2007) which made internet banking the fastest growing area for businesses (Aladwani, 2001). This rapid growth of internet banking provides efficient ways of serving customers throughout the years (Hu & Liao, 2011).

Internet banking also helped to reduce transaction costs of traditional banking services such as, the cost of walk-in customers, reliance on new branches, hiring new qualified personnel, and reducing the amount and cost of paperwork. The increase number of internet users, easy access to the internet, convenience; efficiency and profitability are all factors that encouraged Banks to adopt internet Banking. (Schneider, 2011). Internet banking services are also more attractive and convenient than traditional ones which eliminate the human interaction with bank at end and reduce transaction costs for both the bank

and clients (Alam, et. al, 2007). Thus internet banking is believed to improve customer satisfaction as it can provide faster, easier and more convenient service (Bauer & Hein, 2005). There is a good reason to believe that the widespread availability and usage of the internet and cell phone technology applications will shake the way financial services are produced and delivered to customers in the coming future.

However Internet banking has been introduced to Jordan 15 years ago; and Jordan is one of the pioneering adopters of internet banking countries in the Middle East, the adoption of internet banking by Jordanians still low regardless the millions of dollars invested in upgrading and maintain the internet technology infrastructure needed (Al-Majali & Mat,2011). There exists no research examining customers' behavioral intention to adopt internet banking services through extending TAM in the Middle East and little research has taken place investigating the area of internet banking acceptance in Jordan.

To fill this gap, this research was developed to test hypotheses using the framework of the extended TAM as the foundation to determine the predictors of customers' intention to use internet banking in Jordan. The goal of this research is to investigate the behavioral intention of Jordanian customers to adopt internet banking with a focus on the technology acceptance model (TAM) variables (perceived ease of use, perceived usefulness, perceived risk); bank credibility, Perceived Risk, and Perceived Trust. This research is organized as follows: first, a review of literature on the technology acceptance model (TAM), bank credibility, Perceived Risk, and Perceived Trust based on which the model and hypotheses are formulated to predict customers' intention to adopt internet banking, is presented. Second, research methodology and new model is tested. Third, findings of the analysis are presented. Finally, discussion of limitation and implication is concluded.

An Overview of the Banking Sector of Jordan

Jordan lies in the heart of the Middle East, sharing boarders with Syria to the North, Saudi Arabia to the South, Iraq to the East, and Palestine to the West. Jordan has a population of 10 million people, mostly middle income. Jordan has a high literacy rate (96%), a GDP of $40 billion, 9 million cell phone subscribers, and 6 million internet users (Jordan Factbook, 2012).

The Association of Banks in Jordan report (2012) shows that Banks in Jordan registered a recognizable progress in all arenas in the past decade. The number of banks went up from 21 banks in 2003 to 26 banks in 2012. The number of branches also witnessed an annual growth rate of 5.3%, making them standing at 702 branches in 2011, while the number of ATM units grew by annual rate of 9.6%, reaching 1219 units in the same year. Indicators of the consolidated budget of banks operating in Jordan show that the total assets of banks recorded a noticeable increase that grew annually by 10.8% during the period of 2003- 2012, reaching the amount of 39.3 billion JDs by the end of 2012. Credit facilities extended by banks operating in Jordan increased by an annual growth rate of 12.3%, reaching 17.8 billion dinar in 2012. Deposits at banks also grew during the same period by an annual rate of 10.4%, touching 25 billion JD by the end of 2012. Capital, Reserves, and Allowances of banks rose by 14.6%, standing at 8.4 billion JD by the end of 2012.Indicators of financial strength of Jordanian banking system also displayed outstanding results. The percentage of non-performing debts began a down-the-hill trend since 2003 until it reached 8.4% in the first half of 2012, which remains within the internationally acceptable levels.

Theoretical Framework and Model Formulation

Technology Acceptance Model (TAM)

Davis (1989) was first to introduce the Technology Acceptance Model (TAM) (Figure 1) where he assumes that users' adoption of computer system depends on their behavioral intention to use, which , in turn, depends on attitudes consisting of two beliefs, specifically perceived use of use and perceived usefulness. Davis (1989) advanced his thoughts based on Theory of Reasoned Action (TRA) which was developed by Fishbein and Ajzen(1975). The model suggests that when users are presented with a new software package, a number of factors influence their decision about how and when they will use it. Davis (1989) defined these variables as:

Perceived usefulness (PU) which was defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" and Perceived ease-of-use (PEOU) which was defined as "the degree to which a person believes that using a particular system would be free from effort" (Davis, 1989).

FIGURE 1
TECHNOLOGY ACCEPTANCE MODEL
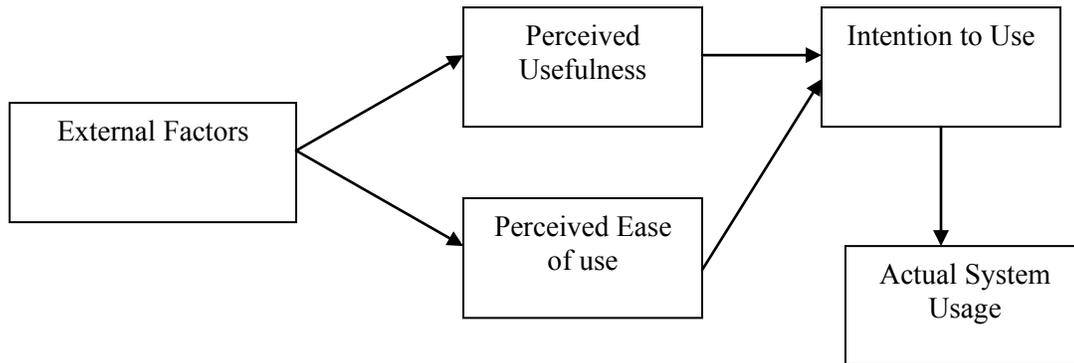
According to TAM, if a user perceives a specific technology as useful, she/he will believe in a positive use-performance relationship. Since effort is a finite resource, a user is likely to accept an application when she/he perceives it as easier to use than another .As a consequence, educational technology with a high level of PU and PEOU is more likely to induce positive perceptions. The relation between PU and PEOU is that PU mediates the effect of PEOU on attitude and intended use. In other words, while PU has direct impacts on attitude and use, PEOU influences attitude and use indirectly through PU. In the context of information technologies, the technology acceptance model (TAM). TAM suggests users formulate a positive attitude toward the technology when they perceive the technology to be useful and easy to use (Davis, 1989).

TAM has become a commonly used model to foresee acceptance and use of information systems in different areas of research; in social influence and cognitive instrumental processes (venkatesh and Davis, 2000), in control, intrinsic motivation and emotion (venkatesh,2000), in integrating risk and acceptance of e-commerce (pavlou,2003), in flow theory in online consumer behavior (Kofaris,2002), in acceptance of telemedicine technology (Hu, et. al, 1999), in the application usage on the World Wide Web (Lederer, et. al, 2000), and in learning goal orientation (Mun and Hwang,2003. With the creation of the internet and WWW, many researchers have applied and adjusted the TAM to the electronic environment and internet adoption. Researchers came out with results that validate TAM (see: Suh and Han, 2002; Wu and Wang, 2005; Pikkarainen et. al., 2004; Lederer, et al, 2000; Moon and Kim, 2001).

The researcher will adopt the TAM as the base model for this research, and adjust the model to reflect the new proposed dimensions of internet banking. The researcher proposed another three constructs that should be embedded into the model to better understand the customer acceptance of internet banking in Jordan; Bank credibility, Perceived Risk and Perceived Trust. The researcher hypotheses that intention to adopt internet banking is influenced by attitudes, perceived usefulness, perceived ease of use, perceived bank credibility, perceived risk and perceived trust. The researcher will test the strength of the relationships embedded into the model and the robustness of the new model in predicting customers' intention to adopt internet banking in Jordan. The new model is depicted in figure 2. Actual usage in Davis's (1989) Model will be replaced with intention to adopt internet banking as a dependent variable. Practically, the rate of using internet banking in Jordan is relatively very low due to technical and non-technical limitations of e-commerce in general and internet Banking in particular (Abbad, et. al, 2011).Theoretically, some researchers found a strong relationship between usage and intention to adopt

(Venkatesh and Morris, 2000) which allows this change in the model. Therefore, the researcher will use intention to adopt internet banking as a dependent variable.

FIGURE 2
PROPOSED NEW MODEL
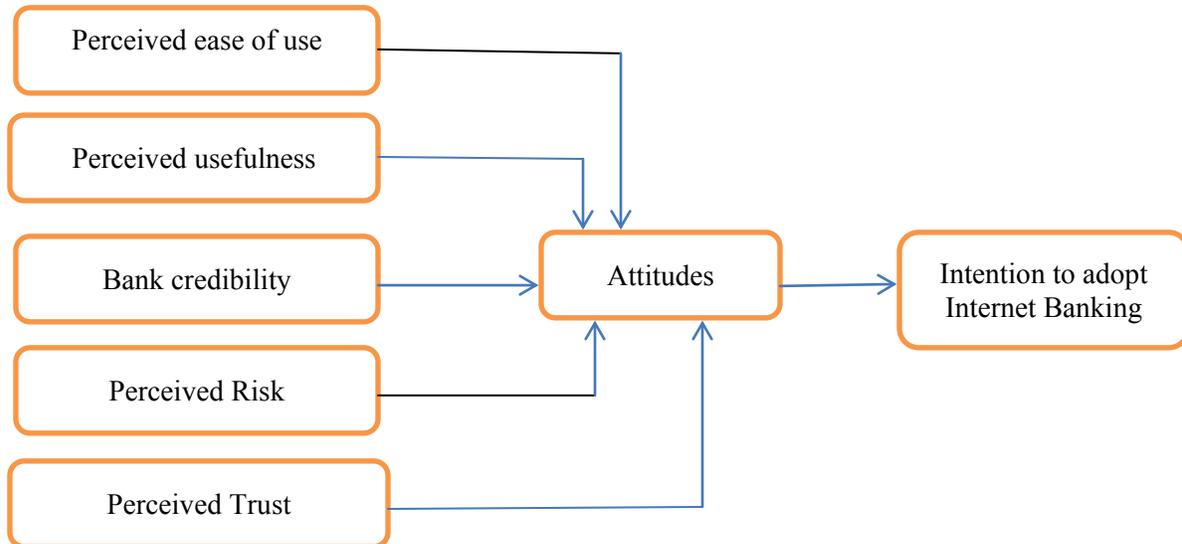
Internet Banking

Internet banking (IB) is defined as "the delivery of banking services through the open-access computer network (the internet) directly to customers' home on private address" (yiu et. al, 2007). IB is a new distribution channel for the delivery of banking services. The adoption of IB has been investigated by many researchers in different contexts (see: Abu Shanab, et al,2010; lee, 2009; Bauer and Hein,2005; Alsajjan and Dennis, 2010; Maenpaa, et al, 2008; Murillo, et. al, 2010; Riffai, et. al, 2011; Subsorn and Limwiriyakul, 2012; Hu and Lio, 2011; Centeno, 2004; Alam, et. al, 2007; Gikandi and Bloor, 2010; Jayaward and Foley, 2000; Suh and Han, 2002; Banan, 2010; Hutchinson and Warren, 2003; Casalo, et. al, 2008; Khrawish and Al-Sa'di, 2011; Kuisma, et. al, 2007; Abushanab, et. al, 2010; Tan and Teo, 2000; Malhotra and Singh, 2007; Mansumitrchai, 2012; Nor, et. al, 2010; Al-majali and Mat, 2011; Awamleh, et. al, 2010).

While TAM has been used with different scholars to predict users' intention to adopt computer and information technology systems, little research applied TAM to predict the adoption of internet banking; particularly in Jordan. Security is one of the important factors customers pay attention to in order to accept and complete internet transactions. The concept of security is highly related to the concept of risk and trust where web security reduces perceived risk and perceived trust customers experience while buying, selling or having transactions over the internet. Feeling secure removes customers' concerns about credibility of the bank site they are dealing with. Therefore the researcher believes that variables such as perceived risk, perceived trust and bank credibility could be considered predictors of attitudes and adoption of IB.

Bank Credibility (BC) and IB Adoption

Bank credibility is one of the important factors that customers pay attention to when dealing with commercial banks. Bank credibility believed to matter for customers although BC is hard to measure (Blinder, 2000). As bank financial services are moving away from the bank providers and banks become more virtual, due to remote access technologies and internet infrastructure, customers are losing the direct

interaction with bank employees which is causing them to deal with the new service virtually (Bauer and Hein, 2006). This new experience and unfamiliar setting of handling financial transactions will create fear and uncertainty to clients. Schnieder (2012) found that products that are familiar and well branded are easier to be sold over the internet and the risk associated with selling them is low. The researcher argues here that customers/clients, who view their banks as credible and trusty when dealing with them on the ground, will adopt internet services provided by the same bank easier than those clients who have issues with the banks they are trading with. A major part of bank credibility is clients' beliefs that banking transactions are completed confidentially, and safely; taking in to consideration reliability and privacy (Matariina, et. al, 2008). Most banks use their management Information Systems to integrate banking services to serve customers with no errors (Alam, et. al, 2007). Research has shown that operational precision is a significant quality consideration in products and services involving money investment (Liao and Cheung, 2002). The researcher believes that those banks who failed to fully integrate their MIS to serve customers efficiently and experienced some financial mistakes when transacting with customers will fail to convince their customers to adopt the internet version of the bank and will suffer credibility loss. Changing from traditional banking to internet banking requires frame-breaking and culture-changing of people and technology. The Jordanian culture is characterized with high uncertainty avoidance (Alkailani and Kumar, 2011) and tendency towards an existing practice(Kusima, et. al, 2007). Jordanians want to see and touch products before making a purchase and prefer face to face communication (Alkailani, et. al, 2013). The researcher has a strong belief that Jordanian customers will find it challenging to accept internet banking and credibility of the bank will make such a challenge easier.

Perceived Ease of Use (PEOU) and IB Adoption

PEU was defined by Davis (1989) as "the degree to which a person believes that using a particular system would be free of effort". Davis (1989) also found that even if potential users believe that a given application is useful, they may at the same time believe that the systems are too hard to use and that performance benefits of usage are outweighed by the effort of using the application. Perceived ease of use implies that existing routine practices can be applied to the situation at hand with less uncertainty (Eriksson and Sharma, 2003) According to TAM PEOU is a major factor that affects acceptance of information System (Davis et al., 1989). Henceforward an internet banking perceived to be easier to use more likely to be accepted by users.

Perceived Usefulness (PU) and IB Adoption

PU was defined by Davis (1989) as "the degree to which a person believes that using a particular system would enhance his job performance". Snoj et al. (2004) find that users do not use a system for its own sake but instead use it because of its attributes that drive value, according to the utility provided by the combination of attributes, less the disutility represented by any sacrifices required to use the system in internet banking PU is associated with perceived benefits. Lee, 2009 proposed two types of benefits customers will get through internet banking; direct and indirect. Direct benefits refer to immediate and tangible benefits customers would enjoy by using internet banking such as faster transactions, aped, and increased financial transparency. Indirect benefits are less tangible and difficult to measure such as allowing customers to perform banking transactions anywhere in the world and enjoy a 24-hour service. Earlier research verified PU to have great effect on attitude and intentions of technology use (Davis, 1989; Lin and Lu, 2000; Gefen et al., 2003)

Perceived Risk and IB Adoption

The first obstacle to electronic commerce adoption in general has been the lack of security over the internet (Bhimani, 1996). Having reliable and secure transactions over the internet is essential to service quality. Banking transactions involve confidential financial transactions that require high level of reliability and confidentiality (Liao and Chueng, 2002). Applying this reasoning to internet banking customers will feel unsecure in case they experience monetary loss due to bank account misuse which will raise the level of perceived risk they have when doing internet banking transactions (Featherman and

Pavlou, 2003). Perceived Risk (PR) is the customer's subjective expectations of suffering a loss in pursuit of a desired outcome (Dowling and Staelin, 1994). Researchers found an association between perceived risk and consumer decision making (Lee, 2009). In the context of IB perceived risk could be financial; when customers are afraid of losing money (Kusima, 2007, social) ; when customer's social standing is enhanced or diminished depending on how internet banking is viewed (Lee, 2009), time; when customers have difficulty navigating the bank website to find services or hyperlinks, and performance risk where customers suffer losses due to technology malfunctions (Kusima, 2007). Research revealed that customers of internet banking had experienced at least one and sometimes more instances of electronic security threats and this threat was magnified in size and consequences when it comes to internet banking. The effect of such a negative experience had a prolonged effect that affect level of perceived risk customers have when banking over the internet (Gikandi and Bloor, 2009).

Perceived Trust and IB Adoption

Another issue in Internet banking is the issue of trusting online banking transactions. Morgan and Hunt (1994) described trust as the heart of all relationships. Trust is the willingness to become vulnerable to others (Rousseau et al. 1998). This vulnerability became more risky and uncertain especially when money is involved (McKnight and Chervany, 2001). The lack of trust affects customers' willingness to buy products and services over the internet (Friedman et al., 2000) and specially in middle eastern countries (Alkailani and Kumar, 2012; Alkailani, et. al, 2013).

Trust has been one of the obstacles that hinder individuals from adopting technology (Nor and Pearson, 2007) due to activities of hacking private sensitive information and identity theft. This has further affected consumers trust level of Internet banking (Kramer, 1999). Enhanced trust in internet banking will reduce monitoring and legal costs (Fortin et al., 2004). Trust significantly influences consumers' willingness or intention to use Internet banking. (Suh et al., 2007). Based on the previous discussion the researcher predicts that there is a statistical relation between consumer's trust and Internet banking. Page and Luding (2003) also consider that trust issues are crucial drivers of Internet banking adoption.

Attitudes Toward Internet Banking in Jordan

In Jordan, banks began to provide e-service in the year 2000, which was introduced by the Arab Bank. The past years have witnessed success in the banking sector and a major growth of Internet banking services in Jordan. Twenty-three banks with more than five hundred and forty-four branches across the country which created competition in performance, quality, and fees for banking services (Khrawish and Al-Sa'di,2011). Despite the rapid increase in information technology, internet banking is still not fully adopted in the Jordanian culture due to cultural barriers. Jordan is a country with high uncertainty avoidance and high indulgence (being socialized) dimensions (Hofestde, ….; Alkailani, et. al, 2013). This sense of uncertainty will create a feeling of resistance to new "uncertain" practices. Jordanians also prefer to see and touch products before buying them (Alkalini and Kumar, 2011), and they also prefer face to face communication to present their ideas and to express their feeling efficiently. Culture shapes the perception of individuals in different ways, which consequently impacts their decision on whether to adopt technology or not (Erumban and de Jong, 2006). Attitudes represent how the consumers feel about Internet banking. Consumers' attitude toward accepting new ideas and practices are highly affected by the culture they are living in. Jordanians are less receptive to adopting new ideas and resistance is a normal consumer behavior to change (Ram, 1987).

Research Methodology

This represents the first research that examines the behavioral intention to adopt internet banking by extending the TAM in the Middle East. To collect data a questionnaire was designed by adapting the instrument and scales developed by TAM. The researcher improved the TAM by adding more constructs; Bank Credibility, Perceived Risk and Perceived Trust as a predictor of attitudes and intention to use

internet banking. In building a valid measurement instrument, the researcher adopted the instruments and scales developed and validated in the following studies:

- To measure perceived ease of use and perceived usefulness, the instrument developed by Davis (1989).
- To measure Attitudes, the questionnaire developed by (cheung, et. al, 2005) was adopted.
- To measure Perceived risk and perceived trust, the instrument and scales developed by (Lee, and Turban, 2001) were adopted.
- A bank credibility scale was developed by the researcher. Instruments and scales mentioned proved to have an established validity and reliability and have been replicated in several studies. A 5-point Likert scale was used for each item with (5 = strongly disagree, 2= agree, 3= neutral, 2= disagree, and 1= strongly disagree).
- Perceived ease of use (PEOU): was defined by Davis (1989) as "the degree to which a person believes that using a particular system would be free of effort". Four questions were adopted for to measure this dimension.
- Perceived Usefulness (PU): was defined by Davis (1989) as the "the degree to which a person believes that using a particular system would enhance his job performance" four questions were used to measure this dimension.
- Attitudes (ATT): refers to an individual's positive or negative feelings about performing about a particular behavior (Cheung, et. al, 2006). Three questions were used to measure attitudes.
- Perceived risk (PR): is defined as the customer's subjective expectations of suffering a loss in pursuit of a desired outcome (Dowling and Staelin, 1994). Four questions were used to measure PR.
- Perceived Trust: is defined as the willingness to become vulnerable to others (Rousseau et al. 1998). Four questions were used to measure PR.
- Bank credibility: is defined as the banks' perceived ability to do the job competence in an honest, transparent, clear and promise-keeping way. (Forder, 2000).

Hypotheses Development

Based on the review of literature and the development of the model, the researcher formulated the following hypotheses.

> *H1: perceived ease of use has an indirect statistical relationship with customers' intention to use internet banking via attitudes.*
> *H2: perceived Usefulness has an indirect statistical relationship with customers' intention to use internet banking via attitudes.*
> *H3: perceived Risk has an indirect statistical relationship with customers' intention to use internet banking via attitudes.*
> *H4: perceived Trust of use has an indirect statistical relationship with customers' intention to use internet banking via attitudes.*
> *H5: Perceived Bank credibility has an indirect statistical relationship with customers' intention to use internet banking via attitudes.*

Data Collection

This study aimed to investigate the willingness of Jordanian customers to use and adopt internet banking and to explore the challenges that face the adoption of internet banking in Jordan. Sample of the study was taken randomly from graduate students list from the registration department at four public universities namely, Yarmouk University, University of Jordan, Jordan University for science and technology and Hashimaite University. Graduate students are usually working professionals who have bank accounts, have good knowledge of English language (TOEFL is a prerequisite for Graduate programs at Public Universities in Jordan), and use internet for their daily research. Graduate students

usually have Pay checks paid through commercial banks. 500 surveys were distributed. 435 surveys were returned. 35 surveys were excluded for missing data or inconsistency in answering the survey by giving more than one answer to a question, which left 400 usable surveys for final analysis. The survey was administered in English and consisted of three parts. First part was a short covering letter explaining the aim of the research. Second part consists of questions about sample demographics, and the third part contains questions that are used to test customers' intention to use and adopt internet banking.

Methodology and Data Analysis

A total of 400 usable questionnaires were entered into analysis. Table 1 shows the demographic characteristics of the respondents. Of the 400 respondents 55% were female; 64% were in the 20-49 age group; 70% came are working for the private sector (This is expected in Jordan where the Private sector became an active investor specially after the privatization trend which took place starting 2009); and most of the respondents are studying for their graduate degrees in Business and Management.

TABLE 1
SAMPLE CHARACTERISTICS

Demographics		Frequency	Percentage (%)
Gender	Male	220	55
	Female	180	45
Age	20-29	120	30
	30-39	135	34
	40-49	70	18
	50 and above	75	18
Respondents' Institution	Public sector	120	30
	Private sector	280	70
Graduate program	Business/ Management	215	53
	Education /Fine Arts	75	19
	Science/ Engineering	110	28

Exploratory Factor Analysis

Preliminary regression analysis was conducted using mean of items representing each variable for each case. The purpose of the preliminary multiple regression test was to check for outliers and influential cases only. The test included Mahalanobis distance, Cook's D, Leverage standardized DFBeta, and the standardized residuals. Cases which exceeded the limit on more than one measure were deleted. To determine if the proposed constructs of the study have convergent validity, the researcher has tested the factor loadings of each item of the variable of interest. An exploratory factor analysis using SPSS was conducted on the survey data. The rotated factor matrix, resulting from a Varimax rotated principal axis factor extraction of the independent variables using the 1.0 eigenvalue cut-off criterion, is shown in Table 2, which indicates that seven factors emerged and reports their factor loadings. The data were tested using the SPSS Exploratory Factor Analysis (EFA) to evaluate the Cronbach's alpha, which ranged from .79 to .90. All factor loadings were larger than 0.5, representing an acceptable significant level of internal validity (Falk and Miller, 1992). The factor loadings ranged from .703 to .752 for Perceived Ease of Use, .595 to .705 for Perceived Usefulness, .584 to .728 for Perceived Risk, .552 to .737 for Perceived Trust,

.559 to .647 for bank Credibility, .621 to .732 for Attitudes, and .553 to .638 for Intention to use and adopt internet banking. Since all factor loadings were of an acceptable significant level, all 28 survey items were retained for further analysis.

TABLE 2
FACTOR LOADINGS

Research Variables	Factor Loading	Cronbach Alpha Total Cumulative %
Perceived Ease of Use (PEOU)		.90
Using the Internet Banking (IB) service is easy for me	.752	
I find my interaction with the IB services clear and understandable	.731	
It is easy for me to become skillful in the use of the IB services	.716	
Overall, I find the use of the IB services easy	.703	
Perceived Usefulness (PU)		.89
Using the IB would enable me to accomplish my tasks more quickly	.705	
Using the IB would make it easier for me to carry out my tasks	.682	
I would find the IB useful	.614	
Overall, I would find using the IB to be advantageous	.595	
Perceived Risk (PR)		.85
Internet banking is risky.	.728	
Banking on the Internet entails uncertainty or vulnerability	.595	
There are negative outcomes on Internet Banking.	.648	
I find it dangerous to bank over the Internet.	.584	
Perceived Trust (PT)		.87
Internet banking is unreliable.	.721	
Internet Banking cannot be trusted; there are just too many uncertainties	.737	
In general, I cannot rely on Internet banks to do my financial transactions	.656	
Anyone trusting Internet Banking is asking for trouble.	.552	
Bank Credibility (BC)		.79
The bank I deal with always keeps its promises.	.559	
I have a close friendly relationship with my Bank personnel	.594	
My bank seldom make mistakes regarding my bank transactions	.647	
My bank always provides me with all the help I need. Definitely, I will recommend it to my friends	.618	
Attitudes (ATT)		.88
Using the IB is a good idea	.732	
I would feel that using the IB is pleasant	.696	
In my opinion, it would be desirable to use the IB	.689	
In my view, using the IB is a wise idea	.621	
Intention (INT)		.89
I would use the IB for my banking needs	.605	
Using the IB for handling my banking transactions is something I would do	.638	
I believe that using internet banking would be an amazing experience	.594	
I would see myself using the IB for handling my banking transactions	.553	

TABLE 3
REGRESSION ANALYSIS

	R	R²	Adjusted R	S d error of the Estimate
Model Summary	0.361	0.130	0.098	0.867

ANOVA Model					
	Sum of Squares	D f	Mean Square	F	Sig.
Regression	15.273	5	3.055	4.064	0.002
Residual	108.244	394	0.752		
Total	123.518	399			

	Unstandardized	Coefficients	Standardized Coefficients		
	B		Beta	t	Sig.
(Constant)	6.108			86.225	0.000
Perceived Risk	0.070		0.074	0.940	0.010
Perceived Trust	0.009		0.009	0.084	0.040
Perceived Usefulness	0.239		0.197	3.151	0.002
Perceived Ease of Use	0.176		0.175	2.283	0.024
Bank Credibility	0.129		0.104	1.716	0.088

TABLE 4
CORRELATION MATRIX

	Mean	S.D.	PEOU	PU	PR	PT	BC	ATT	IB
PEOU	4.23	1.59	------						
PU	4.15	1.63	0.31*	------					
PR	4.10	1.42	- 0.11**	-0.17**	------				
PT	4.58	1.55	- 0.22**	- 0.15**	- 0.27**	------			
BC	3.95	1.61	0.26**	0.08	-0.33**	- 0.29**	------		
ATT	4.20	1.51	0.22**	0.13**	-0.28**	-0.30**	0.32**	------	
IB	4.31	1.39	0.23**	0.29**	- 0.19**	- 0.28**	0.33**	0.25**	------

**Correlation is significant at a 0.01 level
*Correlation is significant at .05 level

Next, regression analysis was conducted to find out how different factors affect the intention to adopt and use internet banking. Results are shown in Table 3. The regression results show that PR (t= 86.225, p<.000), PT (t= 0.940, p< 0.010), PU (t= .3.151, p< 0.040), PEOU (t= 2.283, p<0.024) are all statistically significant and the overall Model was statistically significant as well (R2=0.130, p < .0002). BC was almost significant with the five percent level (t=1.716, p<0.088).

To further test the proposed hypotheses, the researcher finally run a correlation analysis to explore the association and direction of relationships among research variables. Table 4 shows the bi-variate correlation coefficients of the variables in the research model. The findings in the table present that all the variables included in the study are correlated to each other. The association between PEOU, PU and ATT were previously tested and validated by Davis (1989). The table also shows negative correlations between

PR and PT (r= - 0.27**), PR, PT and all other variables which indicates the strong effect pf PR and PT on consumers' attitudes to use and adopt IB. This finding was also proved by Cheung, et al (2006), Hutchison and Warren (2003), Alsajan and Dennis (2010) and Suh and Han (2002). A positive correlation (r= 0.25**) between Attitudes and intention to use and adopt IB was found. Similar findings were established by Banan (2010), Riffai, et al (2011), and Nor et al (2010).

Summary and Conclusion

The primary purpose of this study was to study consumer acceptance of internet banking in Jordan and to explore the factors affecting this new phenomena in light of the technology Acceptance Model (TAM) embedded with new proposed variables derived from electronic commerce, internet shopping, and internet banking literature. The model the researcher developed proposed that internet banking acceptance is affected by the variables derived by the TAM (PEOU, PU) and three other variables referring to Perceived Risk, Perceived Trust and bank Credibility. The Model was tested with 400 Jordanian consumers. After conducting a factor analysis, five factors were identified suggesting that PEOU, PU, PR, PT, and BC have an impact of the acceptance to adopt and use internet banking. The results of the Regression Analysis conducted on the five factors indicate that Perceived Risk and Perceived Trust found to be the most influential factors affecting the use of internet banking. The finding refers to the fact that Jordanians experience high level of both uncertainty avoidance and power distance (Hofested, 1993), since banking over the internet entails uncertainty and risk. Jordanians also prefer to see and touch products (Alkailani and Kumar, 2012) and prefer face-to-face communication (Alkailani, et al,2013) and trust the "seen" over the "unseen" or "virtual". This finding is in line with other studies (e.g . Abu Shannab et al, 2010; Almajali and Mat, 2011; Awamleh et al, 2003).

Perceived ease of use and perceived usefulness were also statistically significant. This findings support the work of Davis (1989) which found that PEOU and PU has an impact on technology acceptance. Bank credibility was almost statistically significant variable in the Model. Schneider (2011) found that products and services with credible reputation are easier to be marketed over the web.

Theoretical Contribution

The results presented contributed to the existing literature in different ways. This research paper represents one of the first articles to investigate internet acceptance in the Middle East which will a contribution to the body of internet banking literature by providing insights on the factors affecting internet banking acceptance in a culture different than those investigated before. The results support Davis (1989) by showing that PEOU and PU are critical factors influencing the acceptance of new internet banking technology. Moreover, Perceived Risk and Perceived Trust were found to have a strong relationship with internet banking acceptance. The results support previous internet banking studies which investigated the issue of Security, Trust and Risk in electronic commerce settings (Liao and Chueng, 2002; Featherman and Pavlou, 2003; Dowling and Staelin, 1994; (Kusima, 2007, social; Gikandi and Bloor, 2009; McKnight and Chervany, 2001; Alkailani and Kumar, 2012; Alkailani, et. al, 2013).

Managerial Contribution

The results of the study provide bankers and financial managers information about those factors affecting the acceptance of internet banking. Results give managers a guide on how to overcome challenge and making the internet banking experience acceptable and rewarding for customers. In the development of internet banking services, software developers as well as web designers should emphasize the issue of security to reduce both perceived risk and perceived trust customers might experience while using internet banking systems. It is recommended that banks give assurances and guarantees to customers that internet transactions are secured and the bank will carry full responsibility of any financial losses that might happen. Marketing-wise, the bank should emphasize the convenience and benefits internet banking transactions entail. Promotional campaigns as well as advertisements should highlight the benefits of internet banking.

Limitations and Future Research

The study has several limitations that affect the reliability and validity of the findings which will limit the ability to generalize them. Although the sample size is large and sufficient to carry out such a research, it consisted of Jordanian graduate students only which will affect the generalization of the findings. The questionnaire was administered in English assuming that students are all at the same level of English Language proficiency. The results are generalizable only to bank customers in Jordan and might not be generalizable to other cultures. The study did not test the moderating effect of demographics that might affect the level of acceptance of internet banking. The proposed Model is missing some of the variables investigated before by other researchers (see: Venkatesh and davis,2000; Venkatesh and Morris,2000) and considered important such as subjective norms and cognitive instrumental processes.

Future study could be on internet banking using a more representative sample and including more variables in the extended model. It would also be worthwhile to test differences of demographics such as gender and educational level on the acceptance of internet banking. The effect of cultural dimensions as intervening factors could be investigated to explore the effect of culture on accepting internet banking and find out if any differences between cultures exist with regard to internet banking acceptance.

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