

## The Effect of Security and Privacy Perceptions on Customers' Trust to Accept Internet Banking Services: An Extension of TAM

<sup>1</sup>Mohammed A. Al-Sharafi, <sup>1</sup>Ruzaini A. Arsha, <sup>2</sup>Emad Abu-Shanab and <sup>3</sup>Nabil Elayah

<sup>1</sup>Faculty of Computer Systems and Software Engineering, UMP,  
Lebuhraya Tun Razak, Pahang, Malaysia

<sup>2</sup>Faculty of Information Technology and Computer Science, Yarmouk University, Irbid, Jordan

<sup>3</sup>Faculty of Computing and IT, University of Science and Technology, Taiz, Yemen

---

**Abstract:** This study attempts to answer the main research question: 'Do security and privacy perceptions affect customers' trust to accept and use internet banking technology to perform their banking transactions?' This study examined the factors that affected Jordanian customers' trust to accept internet banking services. Path analysis was used to analyze 198 responses where results suggested that the hypothesized model was an accurate reflection of the factors that affect trust to accept and use internet banking services. Results indicated that trust has a positive effect on behavioral intention to use internet banking services as its usefulness, security and privacy perceptions significantly influenced the perceived trust. Finally, perceived ease of use had failed to predict Jordanians' intention to use internet banking.

**Key words:** Internet banking services, technology acceptance model, perceived security, perceived privacy, perceived trust

---

### INTRODUCTION

Information and Communication Technology (ICT) has shown a quick improvement in recent years and human lives are affected directly by the digital revolution. internet revolution evolved significantly since 1990s and has radically changed all aspects of our lives. To reach 50 million users, radio took 38 years and television 13 years to do so while the internet just took 4 years and iPod 3 years. Furthermore, Facebook added 100 million users in <9 months and iPhone applications hit 1 billion downloaders only in 9 months (Kreutzer and Land, 2014). With this rapid development and growth in information technology, banks had realized that technology is a major driver in developing its banking activities. So, it is necessary for banks to use this technology in various workplaces in order to provide improved and varied services, acceleration in the performance, reduction in expenditure and efficiency in productivity. As one of the important services offered, internet banking has grown rapidly in the last few years due to its ability to provide competitive advantages, cost efficiencies, wider geographical reach, gaining brand name and provide customize services (Sarma and Singh, 2010; Yousafzai *et al.*, 2003).

A lot of financial services offered by internet banking are conducted directly without time and location

constraints such as checking accounts, credit and debit cards, funds, loans and treasury bonds, money transfers, bill payment, credit checks, portfolio management and etc. These services can be exploited for the benefit of customers and banks where customers can access bank services at anytime from anywhere and easily conduct their transactions (Yousafzai *et al.*, 2003). Banks are using internet banking services to reach more customers and provide them with quality services that are customized to their preferences and thereby gain competitive advantages (Abu-Shanab and Pearson, 2009). Despite the numerous benefits offered by internet banking to banks and customers, there are many issues need to be considered by interested banks; trust is one of it. This study shed some light to the effect of security and privacy perceptions on the issue of trust to accept and use internet banking services among Jordanians customers. Privacy and security concerns are related with trust issues and considered as the main factors that affected the acceptance of internet banking services. Users of internet banking cannot adopt and carry on about it without reducing their uncertainty (Akhlaq and Ahmed, 2013). Trust plays an important role in creating satisfied and expected outcome as a result of transaction so it is considered as a critical topic especially in financial transactions such as internet banking services (Kesharwani and Bisht, 2012). Trust is

one of the important factors that may influence user's behavior to adopt and accept internet banking services (Yaseen and Zayed, 2010).

There are a lot of research studies about the factors that give impact on users' intentions to accept and use internet banking services in performing online transactions. Trust is recognized as one of the most critical factors to succeed in any online environments (Benbasat *et al.*, 2010; Yousafzai *et al.*, 2003). Studies about trust issues in an online environment in general are segmented around different internet applications and they remain in their initial stages (Salo and Karjaluo, 2007). Yousafzai *et al.* (2010) stated that the most extant literature on trust focused on e-Commerce but only few studies investigated on internet banking. Trust in internet banking is a new and emerging area of interest in the field of marketing of financial services research. The role of continuous trust in influencing the intention to use internet banking services was examined and it was found to be a significant contributor to an ongoing intention to use internet banking (Hoehle *et al.*, 2012).

**Literature review:** There are a large volume of published studies describing trust and its related issues to e-Commerce in general and internet banking specifically. Trust can be considered as an important factor to build a successful long-term relationships with customer. This is also true for internet banking due to the perceived risks in online environment. Similarly, to succeed in this area, trust issues and other factors that affected users' acceptance should be addressed (Feizi and Ronaghi, 2010).

**Overview of internet banking:** There are many terms for internet banking where all of them refer to providing users with banking transactions in a convenient fashion. Some of these expressions are "Electronic Banking, Remote Electronic Banking, Home Banking, Online Banking, Self Service Banking, Tele-banking, Mobile Banking and Web Banking".

Internet banking is related to systems that enable bank customers to gain access to their accounts and general information on bank products and services such as balance reporting, inter-account transfers, bill-payment and etc., through the use of bank website and without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations (Safeena *et al.*, 2011; Safeena, 2010). Sarma and Singh, (2010) defined internet banking as the systems that enable bank customers to access and manage their

accounts to gain information, services and products through a Personal Computer (PC) or other means like the internet.

According to Sanayei *et al.* (2011), internet banking allows consumers to carry on a wide range of banking transactions electronically via the bank website at anytime and anywhere, quicker and with lower fees compared to using traditional services. internet banking is one of the most recent and innovative services and is a new trend that provide an effective delivery channel for traditional banking products (Safeena *et al.*, 2011; Chaouali *et al.*, 2016).

Internet banking has various types where understanding this type of products helps better evaluation on the risks faced by both banks and customers. As cited by Sarma and Singh (2010) and Safeena *et al.* (2011) there are three types of internet banking; informational, communicative and transactional. Informational type refers to a bank website that produces only information about products and services on a stand-alone server. The risks in this type are very low because it is a one way service channel (from bank website to customers). Communicative type or simple transactional website refers to a bank website that enables some interactions between customers and banks through e-Mail, inquiry about accounts, filling applications or static file update. The risk is higher with this type compared to the informational type. Finally, transactional types or advanced transactional websites refer to bank websites that allow customers to perform operations or transactions electronically such as transferring money to/from their accounts and apply for loans or pay bills or other transactions.

According to Adams and Lamptey (2009), a simple model of internet banking was presented by Johns and Perrott (2008) and involves a bank, internet technology and users' computers. This model is presented in Fig. 1.

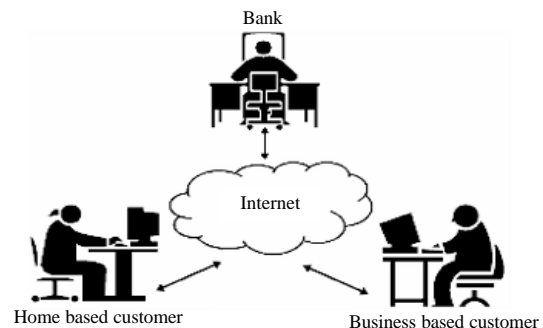


Fig. 1: Model of internet banking

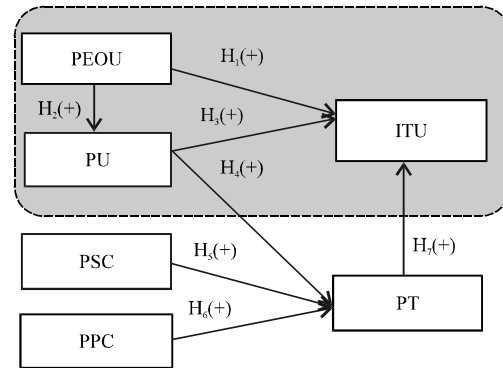
**Table 1: Key factors influencing customer's trust in IB**

Authors	Factors influencing users' trust in internet banking
Harridge-March	Familiarity with internet and trust propensity
Feizi and Ronaghi (2010)	Trusting variables (competence, benevolence and integrity) and customer's satisfaction
Sekhon	Traditional service quality (reliability, assurance, responsiveness, tangible and empathy) and website attributes (perceived security, perceived privacy, perceived ease of use and perceived usefulness)
Chandio (2011)	Site quality, information quality and customer awareness
Yousafzai <i>et al.</i> (2010)	Perceived security and perceived privacy
Lee and Chung (2009)	System quality and information quality
Kim and Prabhakar (2000)	Initial trust in electronic channel (trustor's propensity to trust, word of mouth referral and Institutional Characteristics), perceived risk and trust in bank
Mukherjee and Nath (2003)	Shared value, communication and opportunistic behavior

**Technology acceptance model:** Technology acceptance model was established by Davis (1989) and is considered as one of the most widely used theories in Information System (IS) research to predict users' behavior to accept and use initiatives of IS (Abu-Shanab and Pearson, 2009; Abu-Shanab and Talafha, 2015). The main aim of TAM is to depict the factors influencing IS acceptance in general. Additionally, TAM helps researchers and practitioners to identify why a specific framework is unacceptable. TAM determines the relationships between system design characteristics, perceived usefulness, perceived ease of use, attitude towards using technology and actual use behavior (Davis, 1989).

**Factors influencing User's trust in internet banking:** There is no specific number of factors influencing customer's trust in internet banking. Many studies proposed different models to identify the factors that influence customer's trust in internet banking. Table 1 summarizes the key trust factors investigated by previous studies.

**Model development and hypotheses:** Technology acceptance theories and models had utilized many factors that impact users' acceptance on new technologies. TAM is one of the models that is widely used in IT acceptance; the purpose of TAM is to illustrate what causes people to refuse or accept information technology. TAM estimates the relationships between system design characteristics, perceived usefulness, perceived ease of use, attitude towards technology usage and actual use behavior. TAM includes two basic constructs which are perceived usefulness and perceived ease of use as the key determinants that influence users' perceptions to accept new technology (Davis, 1989). This study extends TAM with additional constructs; security and privacy concerns and their influence on users' trust to accept and use internet banking services. The theoretical model is graphically presented in Fig. 2.



**Fig. 2: The proposed model**

**Perceived Ease of Use (PEOU):** Perceived Ease of Use (PEOU) was proposed by TAM and considered as the base on predicting user's behavioral intention to accept and use IT innovations. PEOU had been used in many of technology adoption studies with other constructs such as trust, intensity, satisfaction and intention to use (Hernandez-Ortega, 2011). Extensions on TAM discussed the relation between PEOU and trust (Dahlberg *et al.*, 2003; Pavlou, 2003) where PEOU has significant impact on improving trust among users to use these technologies (Hernandez-Ortega, 2011). Therefore, this research suggests that when users feel that the bank website or application is easy to use, it will lead to an increase in trusting it and to accept internet banking services. The following hypotheses are stated:

- H<sub>1</sub>: perceived ease of use will have a positive effect on behavioral intention to use internet banking services
- H<sub>2</sub>: perceived ease of use will have a positive effect on perceived usefulness to use internet banking services

**Perceived Usefulness (PU):** Davis (1989) defined Perceived Usefulness (PU) as "the degree to which a person believes that using a particular system would enhance his/her job performance". Customer's expectations of the perceived usefulness affect his/her behavior and increase their trust and intention to use internet banking. Suh and Han (2002) stated that customer's perceived usefulness has a positive impact on his/her trust in internet banking. PU has been found as an important factor that influences customer's trust to use internet banking. Based on above discussion the following hypotheses are proposed:

- H<sub>3</sub>: perceived usefulness will have a positive effect on behavioral intention to use internet banking

- H<sub>4</sub>: perceived usefulness from internet banking will have positive effect on customer's trust in online transactions

**Perceived Security Concern (PSC):** internet banking security concerns are user's concerns about security measures that ensure confidentiality, authorization, authentication, availability, non-repudiation and fraud detection (Chen, 2008). The first issues that need to be taken into consideration in online environment transactions are security concerns because it is considered as a critical element for trust to exist (Hernandez-Ortega, 2011). Consumers conducting transactions on internet banking must feel secured with respect to their personal information, credit card details and so on. So, security can be considered as one of the main requirements for trust (Alam and Yasin, 2010). Given the importance of perceived security impact on user's trust to accept internet banking services, the following is the hypothesis:

- H<sub>5</sub>: perceived security for internet banking will have positive effect on internet banking customers trust

**Perceived Privacy Concern (PPC):** Privacy includes user's concerns about losing control over the provided and required personal information when he/she is using internet banking in conducting transactions. These concerns include personal information collection, storage, usage and disclosure, location tracking and unsolicited advertising (Featherman and Pavlou, 2003). To increase trust in internet banking protection of personal information is a major factor. There are many examples of privacy concerns such as customers' worries that bank may share their profile and information with other firms and be used in publishing advertisements.

Perceived fears of disclosure of personal information have a negative influence on trust to accept internet banking services. The following hypothesis is assumed:

- H<sub>6</sub>: perceived privacy for internet banking will have positive effect on customer's trust in their online transactions

**Perceived Trust in internet banking (PT):** Trust is considered as one of the most important factors in IS research area especially when it is related to monetary transaction innovations such as internet banking. Consumer's trust in internet banking is classified into two concepts which are trust of internet banking vendor (banks) and trust of internet and technology (Yousafzai *et al.*, 2003). Technology trustworthiness is considered to be one of the factors influencing user's

trusting beliefs (Corbitt *et al.*, 2003) where user's trust in internet banking had enforced security, usability, reliability, privacy and other application and website attributes. Such major factors determine the level of trust in internet banking and are considered important factors in enhancing the adoption and success of internet banking (Chaouali *et al.*, 2016; Egger, 2000). Based on the above discussion, this research will assume the following hypothesis:

- H<sub>7</sub>: trust in internet banking has positively contributes for intention to accept and use internet banking

## MATERIALS AND METHODS

**Instrument development:** As we previously mentioned, the proposed research model extended the original TAM (Davis, 1989) with trust, privacy and security concerns. This research intended to determine the relationship between dependent research variable (ITU and PT) and four independent research variables: namely, PSC, PPC and TAM construct (PEOU and PU). The items for the six constructs of ITU, PT, PSC, PPC, PEOU and PU were taken and adapted from previous IS studies related to internet banking adoption. Items were modified to fit with this research topic. Items of survey were translated into Arabic language with some modifications to make them appropriate with the language and culture of target population. All items of survey were measured using a five-point Likert scale with (Kreutzer and Land, 2014) representing strongly disagree (Mansumittrchai and Chiu, 2012) as neutral and Abu-Shanab and Pearson (2009) as strongly agree. The items for PU, PEOU and ITU constructs were taken from previous research (Venkatesh and Bala, 2008; Davis, 1989). Items of PSC and PPC constructs are adopted from Luis *et al.* (2007) and Yousafzai *et al.* (2010) while items of PT construct are adopted from Lee and Chung (2009).

**Primary data analysis and descriptive statistics:** The first part of the survey contains eight questions on the demographic information and characteristics of the respondents and the internet and bank use. Questions from 1-3 asked about gender, age and education level. Questions from 4-8 asked about internet use, daily' access to the internet, bank account, internet banking use and internet banking services.

Of the 198 usable surveys, 40.9% were filled by females and 58.6% were filled by males (0.5% did not report their gender). In addition, 43.4% of respondents were ages between 18 and 26 years old, followed by the age 27-35 category (40.9%), 13.1% of respondents

between 36-50 years old and only 2.5% of respondents were >50 years old. The 83.8% of respondents have high level of education (BSc and MSc), 7.6% hold a doctorate degree while 8.6% of respondents hold a high school certificate or diploma. The 98% of respondents have the ability to use the internet where 85.9% of them spend about an 1-4 h on the internet while 12.1% spend less than an hour a day on it and only 2% does not use the internet. All subjects have a bank account but only 32.3% of them used internet banking services, 12.1% used informational services such as inquiries (balance-exchange rates-benefits, etc.) and only 4.5% of subjects used communicative services such as request statement of account, card, a checkbook, loan or change password. Finally, 15.7% from respondent used transactional services.

## RESULTS AND DISCUSSION

### Data analysis

**Reliability and validity measures:** The degree to which measurements are free from error and give consistent results is called reliability (Chaouali *et al.*, 2016). In this research, internal consistency (or construct reliability) is measured in order to assess and show the degree that construct items are homogeneous. Reliability score or Cronbach's  $\alpha$  is used to measure the construct reliability where an acceptable value of such measure should be >0.6 and a recommended value is above 0.8 (Safeena *et al.*, 2011). The means, standard deviations, variance and reliability of measurement items are shown in Table 2.

Table 2: Reliability analysis for model variables

Variables	Items	Mean	Rated scale	SD	Cronbach's $\alpha$ (reliability)
PU	PU1	3.85	High	1.036	0.922
	PU2	4.03	High	0.939	
	PU3	4.02	High	0.971	
	PU4	3.89	High	1.001	
PEU	PEOU1	4.06	High	0.919	0.887
	PEOU2	3.90	High	0.961	
	PEOU3	4.06	High	0.888	
	PEOU4	3.96	High	0.886	
PSC	PS1	3.41	Medium	1.014	0.917
	PS2	3.46	Medium	0.990	
	PS3	3.62	Medium	0.942	
	PS4	3.25	Medium	1.059	
PPC	PP5	3.60	Medium	0.976	0.879
	PP1	3.85	High	0.871	
	PP2	3.23	Medium	1.159	
	PP3	3.72	High	0.962	
	PP4	3.65	Medium	0.921	
	PP5	3.74	High	0.895	
PT	PP6	3.49	Medium	1.046	0.873
	PT1	3.62	Medium	0.920	
	PT2	3.35	Medium	1.030	
ITU	PT3	3.44	Medium	0.994	0.947
	ITUI	3.73	High	1.084	

As stated before, this study utilized a five-point Likert scale where mean values estimated from 1-2.33 are considered low, between 2.33 and 3.66 are considered moderate and >3.66-5 are considered high. Standard deviations are used to measure the variation from the mean. Table 2 also shows the summated reliability analysis for constructs used in the model. All values of Cronbach's  $\alpha$  exceeded the threshold point recommended by research (>0.8).

**Path analysis and hypotheses testing:** Testing the structural model means testing the hypothesized theoretical model or the relationships between the variables of model. The interrelationship among the variables of model are tested using path analysis. Proposed research model includes two types of variables; endogenous variables and exogenous variables. Endogenous variables include ITU, PT and PU where exogenous variables are PEOU, PSC and PPC.

Based on the regression weight estimations, the majority of paths between model variables ( $H_2$ - $H_7$ ) were significant with a  $p < 0.001$ . Such result indicates that the hypothesized relationship is supported. The only insignificant relationship was the first hypothesis (perceived ease of use and its influence on perceived usefulness) where the p-value exceeded the 0.05 acceptable level. Based on that,  $H_1$  is not supported. Regression weight estimations for insignificant and significant paths are shown in Table 3.

The main purpose of this research is to investigate the influence of PEOU, PPC, PSC and PU on trust among Jordanian banks customers and the effect of PT on their behavior to accept and use internet banking technology to perform their banking transactions. Based on the research findings mentioned in the previous section, the following sections will discuss the results and how such results answer the study questions in the hypotheses.

**Effect of PEOU on ITU and PU:** PEOU is considered as one of the factors that have influence on user to accept or reject new technologies (Davis, 1989). The effect of PEOU on behavioral intention to use internet banking services ( $H_1$ ) and PU to use internet banking services ( $H_2$ ) were

Table 3: AMOS selected text output: regression weights for paths

Hypotheses	Paths	Estimate	SE	p-values
H1	ITU--PEOU	0.00	0.08	0.96
H2	PU--PEOU	0.70	0.06	***
H3	ITU--PU	0.46	0.07	***
H4	PT--PU	0.16	0.04	***
H5	PT--PSC	0.33	0.06	***
H6	PT--PPC	0.52	0.07	***
H7	ITU--PT	0.54	0.06	***

\*\*\* $p < 0.0001$

**Table 4: Means of PEOU items**

Item No.	Measurement items	Mean
PEOU1	I find it easy to learn how to use internet banking	3.68
PEOU2	Interacting with the system does not require a lot of my mental effort	3.07
PEOU3	I find internet banking easy for me	3.32
PEOU4	My interaction with internet banking is clear and understandable	3.82

examined in this study. Depending on the results of path analysis, there is no significant effect of perceived ease of use on behavioral intention to use internet banking services where the significant level reached 0.96 and is shown in Table 4 (>0.05 is considered not significant). The estimation of path coefficient between perceived ease of use and intention to use internet banking services is equal to zero which means that there is no significant effect between these two variables.

The significant relationship between PEOU and PU to use internet banking services is supported where the significant level was <0.001 and the estimated path coefficient between PEOU and PU had reached 70%. Answers from respondents showed a swung in opinion between medium and high where item PEOU2 get lower means. This indicates that users of internet banking system required some effort to understand it. Item PEOU4 yielded high means which reached 3.82 and this indicate that internet banking system is clear and understandable for users. Table 4 shows the means of all perceived ease of use items from PEOU1 to PEOU4.

**Effect of PU on ITU and PT:** User’s perception about the usefulness of the technology is another factor that has an effect on user’s intention to accept or reject this technology (Davis, 1989); this is true for internet banking. Based on the results of path analyses, there is a significant effect of PU on behavioral intention to use internet banking (H<sub>3</sub>) and customer’s trust in their online transactions between users (H<sub>4</sub>). The significant level was <0.001 and the estimated path coefficient between perceived usefulness and intention to use internet banking is 46%. Only 16% of the estimated path coefficient is between perceived usefulness and customer’s trust. Answers from respondents showed high means for PU2 item where the means reached 4.14 which indicate that using internet banking increases productivity of users. Table 5 shows the means of all perceived usefulness items from PU1 to PU4.

**Effect of PSC on PT:** The effect of PSC for internet banking on customer’s trust in their online transactions between users yielded significant effect based on the results of path analysis where the significant level was

**Table 5: Means of PU items**

Item	Measurement items	Mean
PU1	Using internet banking improves my performance in conducting my banking transactions	3.61
PU2	Using internet banking in my job increases my productivity	4.14
PU3	Using the system enhances my effectiveness conducting my banking and decrease time	3.86
PU4	Internet banking services meet my needs, so I find it useful for me	3.86

**Table 6: Means of PU items**

Item	Measurement items	Mean
PSC1	I think internet banking website has sufficient technical capacity to ensure that the data I send cannot be modified by a third party	4.61
PSC2	I think internet banking website has mechanisms to ensure the safe transmission of its users information	3.32
PSC3	I think internet banking website shows great concern for the security of any financial transactions	3.75
PSC4	I think internet banking website has sufficient technical capacity to ensure that no other organization will supplant its identity on the internet	3.82
PSC5	I am sure of the identity of internet banking web site when I establish contact via the internet	4.52

<0.001 and the estimated path coefficient equals 33%. This supports the hypothesis related to the effect of perceived security on customer’s trust (H<sub>6</sub>). Most respondents were sure of the identity of internet banking website or application through establishing contact via the internet based on means of PS5 items that reached 4.52. Table 6 shows the means of all perceived security items from PSC1 to PSC5.

**Effect of PPC on PT:** The effect of PPC for internet banking on customer’s trust in their online transactions between users was significant based on the results of path analysis where the significant level was <0.001 and the estimated path coefficient equals 52%. This supports the hypothesis related to the effect of perceived privacy on customer’s trust (H<sub>7</sub>). Depending on the answers on PP6 item (mean = 4.52), most of respondents think that internet banking website will not provide personal information to other companies without their consent. Table 7 shows the means of all perceived privacy items from PPC1 to PPC6.

**Effect of PT on ITU:** The main research question of this study is “do security and privacy perceptions affect customers’ trusting to accept and use internet banking technology to perform their banking transactions?”

From the results of path analysis, trust has a positive effect on behavioral intention to use internet banking services where the significant level was <0.001 and the estimated path coefficient had reached 54%. This supports the hypothesis related to the influence of perceived trust on user’s intention to use internet banking

**Table 7: Means of PPC items**

Item	Measurement items	Mean
PPC 1	I think internet banking website shows concern for the privacy of its users	3.17
PPC 2	I feel safe when I send personal information to internet banking website	4.0
PPC 3	I think internet banking website abides by personal data protection laws	3.11
PPC 4	I think internet banking website only collects user personal data that are necessary for its activity	4.24
PPC 5	I think internet banking web site respects the user's rights when obtaining personal information	3.72
PPC 6	I think that internet banking website will not provide my personal information to other companies without my consent	4.52

**Table 8: Means of PT and ITU items**

Item	Measurement Items	Mean
PT1	Internet banking keeps its promises	4.11
PT2	Internet banking is trustworthy	3.79
PT3	Overall, I trust internet banking	3.76
ITU1	Assuming I had access to internet banking, I intend to use it	3.29
ITU2	If my bank provides internet banking, I think that I would use it	3.96
ITU3	I plan to use the internet banking services offered by my bank	4.00

(H<sub>7</sub>). High mean of respondent's answers had reached to 4.11, where most of them believe that internet banking keeps its promises towards its customers. Table 8 shows the means of all perceived trust items from PT 1 to PT 3 and intention to use items from ITU1 to ITU3.

### CONCLUSION

The purpose of this study was to understand the security and privacy perceptions and the original TAM constructs that influence customers' trust to accept internet banking services. This study focused on identifying the relationship between the PSC, PPC, PU and PT, besides the relationship between PT and ITU. It is also aimed at identifying the relationship between PEU and ITU and finally the relationship between PEU and PU. Results indicated that the proposed factors (PSC, PPC and PU) are important factors that have positive impact on PT. In addition, results also indicated that PEU is not a significant predictor of users' intention to use internet banking services.

PT has been found as an important factor that helps to predict users' intention to use internet banking services. To succeed in utilizing internet banking services, trust issues should be taken into consideration. To increase the level of users' trust in internet banking, the factors influencing users' perception of banks; factors such as benevolence, integrity and ability should be considered. Users' belief about the ease of use of internet banking as a channel for conducting financial transactions was also found as an important factor that

helps in predicting intention to use internet banking services by Jordanian customers. Banks should consider this factor because of mobile devices physical limitations such as screen and keypad size, battery live periods and low resolution display. All these limitations make mobile devices are difficult to be used and less attractive to the users in conducting online financial transaction. Banks should make the process of conducting online financial transactions using internet banking as easy as possible. This includes website and mobile app design quality and design requested processes that make conducting transactions easy to use and require less efforts from consumers. Among the investigated factors that help to predict the Jordanian intention to use internet banking, it has been found that users' belief about the usefulness of using internet banking was an important factor. This is good for banks where internet banking has unique characteristics that differ from traditional bank services. internet banking characteristics include ubiquity, ability to personalize services and instant connectivity. These features make this internet banking able to provide value-added services and benefits to consumers that cannot be provided by traditional bank services. For the growth of internet banking, promotion of educational efforts are required by banks to increase Jordanian awareness of the benefits that will be gained from using internet banking and motivate them to increase their use of this technology in the future.

### REFERENCES

- Abu-Shanab, E. and H. Talafha, 2015. Internet banking adoption in Jordan: The servqual extension. Proceedings of the 14th International Conference on Interaction Design and Children, June 21-25, 2015, Medford, MA., USA., pp: 90-97.
- Abu-Shanab, E. and M. Pearson, 2009. Internet banking in Jordan: An Arabic instrument validation process. Int. Arab J. Inform. Technol., 6: 235-244.
- Adams, A.N. and A.O. Lamptey, 2009. Customer perceived value in internet banking in Ghana. Department of Business Administration and Social Science, Division of System Sciences, Luella University of Technology Sweden.
- Akhlaq, A. and E. Ahmed, 2013. The effect of motivation on trust in the acceptance of internet banking in a low income country. Int. J. Bank Market., 31: 115-125.
- Alam, S.S. and N.M. Yasin, 2010. What factors influence online brand trust: Evidence from online tickets buyers in Malaysia. J. Theoret. Applied Electron. Commerce Res., 5: 78-89.
- Benbasat, I., D. Gefen and P.A. Pavlou, 2010. Introduction to the special issue on novel perspectives on trust in information systems. MIS Q., 34: 367-371.

- Chandio, F.H., 2011. Evaluating user acceptance of online banking information systems: An empirical case of Pakistan. Paper No. 18, Brunel University West London, pp: 1-12.
- Chaouali, W., I.B. Yahia and N. Souiden, 2016. The interplay of counter-conformity motivation, social influence and trust in customers' intention to adopt Internet banking services: The case of an emerging country. *J. Retail. Consumer Serv.*, 28: 209-218.
- Chen, L.D., 2008. A model of consumer acceptance of mobile payment. *Int. J. Mobile Commun.*, 6: 32-52.
- Corbitt, B.J., T. Thanasankit and H. Yi, 2003. Trust and e-commerce: A study of consumer perceptions. *Electron. Commerce Res. Applic.*, 2: 203-215.
- Dahlberg, T., N. Mallet and A. Orni, 2003. A trust enhanced technology acceptance model: Consumer acceptance of mobile payment solutions. Proceedings of the 2nd Stockholm Mobility Roundtable, May 22-23, Stockholm, Sweden.
- Davis, F.D., 1989. Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS. Quart.*, 13: 319-340.
- Egger, F.N., 2000. Trust me, I'm an online vendor: Towards a model of trust for e-commerce system design. Proceedings of the CHI'00 Extended Abstracts on Human Factors in Computing Systems, April 1-6, 2000, The Hague, Netherlands -.
- Featherman, M.S. and P.A. Pavlou, 2003. Predicting e-services adoption: A perceived risk facets perspective. *Int. J. Hum. Comput. Stud.*, 59: 451-474.
- Feizi, K. and M.H. Ronaghi, 2010. A model for e-banking trust in iran's banking industry. *Int. J. Ind. Eng.*, 21: 23-33.
- Hernandez-Ortega, B., 2011. The role of post-use trust in the acceptance of a technology: Drivers and consequences. *Technovation*, 31: 523-538.
- Hoehle, H., S. Huff and S. Goode, 2012. The role of continuous trust in information systems continuance. *J. Comput. Inf. Syst.*, 52: 1-9.
- Johns, R. and B. Perrott, 2008. The impact of internet banking on business-customer relationships (are you being self-served?). *Int. J. Bank Market.*, 26: 465-482.
- Kesharwani, A. and S.S. Bisht, 2012. The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. *Int. J. Bank Market.*, 30: 303-322.
- Kim, K. and B. Prabhakar, 2000. Initial trust, perceived risk and the adoption of internet banking. Proceedings of the 21st International Conference on Information Systems, December 10-13, 2000, Brisbane, Queensland, Australia, pp: 537-543.
- Kreutzer, R.T. and K.H. Land, 2014. *Digital Darwinism: Branding and Business Models in Jeopardy*. Springer, New York, USA., ISBN: 9783642544019, Pages: 257.
- Lee, K.C. and N. Chung, 2009. Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified DeLone and McLean's model perspective. *Interact. Comput.*, 21: 385-392.
- Luis, V.C., C. Flavian, M. Guinaliu, 2007. The role of security, privacy, usability and reputation in the development of online banking. *Online Inform. Rev.*, 3: 583-603.
- Mansumittrchai, S. and C. Chiu, 2012. Adoption of internet banking in uae: Factors underlying adoption characteristics. *Int. J. Manage. Marketing Res.*, 5: 103-115.
- Mukherjee, A. and P. Nath, 2003. A model of trust in online relationship banking. *Int. J. Bank Market.*, 21: 5-15.
- Pavlou, P.A., 2003. Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *Int. J. Electr. Commerce*, 7: 101-134.
- Safeena, R., 2010. Customer perspectives on e-business value: Case study on internet banking. *J. Inter. Bank. Commerce*, 15: 1-13.
- Safeena, R., H. Date and A. Kammani, 2011. Internet banking adoption in an emerging economy: Indian consumer's perspective. *Int. Arab J. E-Technol.*, 2: 56-64.
- Salo, J. and H. Karjaluo, 2007. A conceptual model of trust in the online environment. *Online Inform. Rev.*, 31: 604-621.
- Sanayei, A., A. Shaemi and M. Salajegheh, 2011. Analysis of the factors affecting of internet banking: Case study of customers of Mellat Bank in Isfahan city. *Interdisciplinary J. Contemp. Res. Bus.*, 3: 751-761.
- Sarma, G. and P.K. Singh, 2010. Internet banking: Risk analysis and applicability of biometric technology for authentication. *Int. J. Pure Applied Sci. Technol.*, 1: 67-78.
- Suh, B. and I. Han, 2002. Effect of trust on customer acceptance of internet banking. *Electron. Commer. Res. Applic.*, 1: 247-263.
- Venkatesh, V. and H. Bala, 2008. Technology acceptance model 3 and a research agenda on interventions. *Decis. Sci.*, 39: 273-315.
- Yaseen, S.G. and S. Zayed, 2010. Exploring critical determinants in deploying mobile commerce technology. *Am. J. Applied Sci.*, 7: 35-46.
- Yousafzai, S.Y., G.R. Foxall and J.G. Pallister, 2010. Explaining internet banking behavior: Theory of reasoned action, theory of planned behavior, or technology acceptance model. *J. Applied Soc. Psychol.*, 40: 1172-1202.
- Yousafzai, S.Y., J.G. Pallister and G.R. Foxall, 2003. A proposed model of e-trust for electronic banking. *Technovation*, 23: 847-860.