TOWARDS THE DEVELOPMENT OF AN INITIAL TRUST MODEL FOR THE ADOPTION OF INTERNET BANKING SERVICES IN JORDAN

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TOWARDS THE DEVELOPMENT OF AN INITIAL TRUST MODEL FOR THE ADOPTION OF INTERNET BANKING SERVICES IN JORDAN

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Abstract

Internet banking service (IBS) is transforming the traditional ways of customer banking. Although IBS is very common in developed countries, however, its adoption by customers in developing countries is still very slow. This may well be due to the lack of customer’s trust in IBS in developing countries. This paper studies the important issue of customer’s initial trust in IBS in the Jordanian context and proposes the customer initial trust model. The objective of this model is to understand and analyse the underlying factors that affect the early stage of trust (i.e. initial customer trust) in IBS, which may impact customer’s initial intention to use IBS. The proposed model of customer’s initial trust in IBS integrates constructs from Diffusion of Innovation (DoI) theory, Hofstede culture theory and trust literature. The distinguishable property of this model is the incorporation of national culture dimensions on initial trust. The proposed model will assist Jordanian banks in understanding the factors that may impact their customers’ initial trust in IBS.

Keywords: Initial trust, internet banking services, national culture, customer behaviour, Jordan.
1 INTRODUCTION

The history of different communication channels’ adoption in banking services can be traced back to 1980s (Bidgoli 2004); this was when the banks first attempted delivering their services through remote banking services. In the last decade, a number of studies reported the importance of using internet banking services (IBS) (Dandapani & Curran 2004). This study defines IBS as customer’s ability to interact with the bank and perform their banking transactions without having them physical present at the bank branch.

IBS is relatively new in developing countries such as Jordan. The adoption of any new technology depends on many factors, however; trust is one of the most critical factors in accepting, adopting, or using any new technology (McKnight et al. 2002b; Gefen et al 2003); and the case of adopting IBS is not any different (Kim et al. 2009; Susanto et al. 2013; Zhou 2011). Trust is not only important for IBS, but it is also very important for offline environment (McKnight et al. 1998).

There are a number of studies that discuss the trust issue in IBS adoption in general (Yousafzai et al. 2009). However, there is a lack of studies that investigate customer’s initial trust (the early stage of trust) in IBS in developing countries (Susanto et al. 2013), especially in Jordan (Aljaafreh et al. 2013). This paper fills this gap and studies the customer’s initial trust in IBS and proposes to develop a comprehensive theoretical-based practical framework to understand and analyse the factors that may impact customer’s initial trust in IBS in the Jordanian context.

More precisely, the paper has twofold: firstly, it focuses on identifying and understanding the factors that most likely influence customer’s initial trust in IBS in Jordanian context. Secondly, it proposes a comprehensive model representing the identified factors and their relationships to understand and analyse the customer’s initial trust in IBS in the Jordanian context.

This paper is organised as follows. Section 2 discusses the theoretical background and the literature review of this study. Section 3 presents the customer’s initial trust model. Section 4 discusses the customer’s initial trust model. Finally, the researchers come up with the conclusion of this study.

2 BACKGROUND AND LITERATURE REVIEW

This section discusses the IBS, initial trust and national culture concepts and related studies for establishing the background and context for this paper.

2.1 Internet banking services (IBS)

The first usage of IBS was reported in 1996 by Atlanta internet bank in the USA. In early 2000, banks in Jordan started embracing IBS such as that of Arab Bank and Jordan Kuwait bank. These early adopters in Jordan are deemed to be the pioneers in delivering their services through their IBS websites (Awamleh et al. 2003). AbuShanab and Person (2007) reported that 16 banks in total offer the IBS in Jordan. According to the Association Banks of Jordan (ABJ), the number of banks that offer IBS in Jordan has increased from 16 to 20 banks (ABJ 2009). This indicates a gradual increase in the adoption of IBS by Jordanian banks. However, we also need to look at the IBS adoption from the customer perspective.

In the third quarter of 2013 (see Figure 1), the Telecommunication Regulation Committee (TRC) of Jordan published a report indicating that 72% of Jordanians use general Internet (TRC 2013). Although, the general Internet adoption rate is very high (see figure 1), the results of a survey was conducted by the Department of Statistics (DOS) in Jordan pointed that the usage of IBS in Jordan was only 1.8% in 2012 (DOS 2012). However, the adoption of IBS from customer perspectives is still very slow and is an important issue for the Jordan banking industry. This draws our attention to study and understand the customer trust, especially initial trust in IBS in the overall context of IBS adoption in Jordan.
2.2 Initial trust

Initial trust is the early stage of trust, which is formed without any previous information about the object of interest. Kim & Tadisina (2007) defined initial trust as “a construct that measures trust in the initial stage of a relationship, in which a customer’s attitude may not have been built up yet, it is considered a prerequisite for initiating a very first or initial interaction between an online customer and online retailer (Kim 2012). It depends on the following three trust antecedents:

- Personality-Based trust: It is defined as the tendency of someone to believe in someone that may or may not result in trusting them (Mayer et al. 1995; McKnight et al. 1998). It is also known as disposition to trust or propensity to trust (Kim 2012).
- Cognition-Based trust: Meyerson et al. (1996) indicated that cognition-based trust represents how individuals depend upon the first impression or meeting to and from their trust instead of previous interaction or knowledge.
- Institution-Based trust: It has two predictors (McKnight et al. 1998): situational normality and structural assurance. Baier (1986) defined situational normality as the normality of such a situation makes someone believe that his/her order is in a proper environment and will succeed. The other predictor, structural assurance was defined as the existence of structures such as guarantees, regulations, rules, polices, security, legal resources, or other procedures will increase and promote success (McKnight 1998). Institution-Based trust assumes that individual’s initial trust will increase if s/he perceived that the interaction with the trustee fits a common standard (Bahmanziari et al. 2008).

Initial trust issue has been discussed in offline environment (Mayer et al. 1995) and online environment (McKnight et al. 2002a, b). This paper focuses on initial trust in IBS as a case from online environment; and therefore, presents the related studies which had been conducted in developed and developing countries.

2.2.1 Initial trust in developed countries

In the last fifteen years, the trust factor related to internet or online technology has been investigated intensively in the field of management information system (MIS). A literature review study was conducted, which systematically reviewed 21 studies on initial trust (Aljaafreh et al. 2013) and highlighted the combination of trust literature with other technology theories to conceptualise trust such as the combination of trust literature and technology acceptance model (TAM) (e.g. Koufaris & Hampton-Sosa 2004), or trust literature and diffusion of innovation theory (DoI) (e.g. Kim et al. 2009). Most of the previous studies focused on online retailers as the trustee part (e.g. Gefen et al. 2003). Others investigated initial trust with specific systems in mind such as legal advice systems (McKnight et al. 2002a, b) or National identity system (Li et al. 2008). Kim & Prabhakar (2004) and Kim et al. (2009) are the only who examined initial trust with IBS and Mobile Banking respectively. In
developing countries, only one study investigated initial trust effect on IBS intention to use (Susanto et al. 2013).

2.2.2 Initial trust in developing and Arab countries

Despite the large number of studies investigated initial trust/trust in developed countries, a few studies were found in the literature that investigated the trust factor in developing countries (Susanto et al. 2013). Consequently, a small number of studies were found in developing countries such as that of Jordan and UAE. For instance: only one study was conducted in Jordan (Abu-Shanab and Al-Azzam 2012), one in Saudi Arabia (AlSaghier 2010), one in Oman (AL-Dwairi and Kamala 2009), and one in UAE (Azam et al. 2012), all of them examined samples with previous experiences and none of them investigated initial trust in IBS. In addition to the general concept of initial trust, this study will also investigate the impact of national culture (see section 2.3) on the online trust issue that has not been thoroughly investigated (Gefen et al. 2003).

2.2.3 Initial trust in banking sector

Although the literature has widely investigated initial trust in online environment, a small number of studies focused on initial trust within the banking sector. The following table summarises studies focused on initial trust in the banking sector:

<table>
<thead>
<tr>
<th>Author</th>
<th>Antecedents of initial trust</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim &amp; Prabhakar (2004)</td>
<td>Propensity to trust. Structural assurance. Word of mouth referrals.</td>
<td>• Findings showed that propensity to trust, structural assurance, and word of mouth (relational content) were significant predictors for initial trust in e-channel. • Initial trust in e-channel has significant relationship with IBS adoption. • Trust on banks is necessary but condition for IBS adoption.</td>
</tr>
<tr>
<td>Kim et al (2009)</td>
<td>Relative benefits. Propensity to trust. Structural assurance. Reputation for the firm.</td>
<td>• Relative advantages (benefits), propensity to trust, structural assurance had significant effect on initial trust. • Relative advantages and initial trust had significant effect on person’s intention to use. • There is no significant effect of firm’s reputation on initial trust or intention to use.</td>
</tr>
<tr>
<td>Susanto et al (2013)</td>
<td>Trust propensity. Reputation. Perceived security. Perceived privacy. Relative benefits. Website usability. Governmental support.</td>
<td>• Relative advantages, perceived security, website usability are positively influence initial trust and intention to use. • Perceived privacy, reputation, and government support are positively influence initial trust only. • Initial trust positively influences intention to use.</td>
</tr>
<tr>
<td>Zhou (2011)</td>
<td>Trust propensity. Structural assurance. System quality. Website quality.</td>
<td>• Results revealed that initial trust positively affected by structural assurance and information quality. • Perceived usefulness positively affected by initial trust, system quality, and information quality. • Both of initial trust and usefulness predict usage intention.</td>
</tr>
</tbody>
</table>

Table 1. Studies investigated initial trust in banking sector.

Firstly, it can be observed from Table 1, that all studies shared the investigation of propensity to trust and structural assurance (perceived security and privacy) as major antecedents of initial trust. Secondly, propensity to trust positively affects initial trust for users with no previous experiences in using IBS. Structural assurance, on the other hand, affects initial trust for all users. Thirdly, the relative benefits (advantages) from Diffusion of Innovation DoI theory is always found as a predictor
of initial trust in IBS (Kim & Prabhakar 2004; Susanto et al. 2013) or in mobile banking (Kim et al. 2009). Fourthly, factors from Human Computer Interaction theory (system quality, web site quality, and website usability) were investigated as antecedents of trust. Finally, only one study investigated a factor from the social theory (word of mouth), this factor was found as significant predictor for initial trust.

2.3 National culture

The concept of culture does not have a single and an agreed definition like many others concepts. Hofstede defined it as “the collective programming of the mind which distinguishes the members in one human group from another” (Hofstede 1997, p.21).

In the field of MIS, Hofstede culture theory is the most widely used culture theory and the first cross-cultural study (Leidner and Kayworth 2006). The existence of this study alone on the scene of cross-cultural field gives it the precession to be used and adopted in future studies. Moreover, the results of Hofstede study were created based upon empirical data from huge sample size of 116000 respondents (Adler 1997). Finally, McCoy et al (2007) pointed that Hofstede’s theory is the most used in national culture research. Also, they noticed that Hofstede’s dimensions are used from those who did not hold with them.

In the literature, culture is viewed as an important area of interest in many research fields (Susanto et al. 2013). In trust building process, Gefen et al. (2003) examined trust building process in two different cultures (U.S and Israel) and found that culture has significant effect on intention to trust. Gefen’s et al. (2003) study was the only one in the literature which investigated the effect of Hofstede’s cultural dimensions on trust, because of cultural indexes differences (Power distance and Uncertainty Avoidance are high in Arab countries; however; individualism and masculinity are high in American culture) between developing countries and Arab countries (Hofstede 1997). This study will examine the effect of Hofstede’s dimensions on initial trust in IBS in Jordanian context as one of Arab countries.

The impact of Arab culture on IT/IS was examined in a number of studies (e.g. Al-Gahtani 2004). In the Jordanian context, national culture was examined as an external variable of the Technology Acceptance Model (TAM) in accepting IBS (Al-Sukkar and Hasan 2005) or adopting e-Government (Alhujran 2009). However, the relationship between national culture and initial trust has never been investigated. Therefore, the complex culture system in Arab countries and the lack of studies in this important area demand the inclusion and study of national culture impact on customer’s initial trust in IBS in Jordanian context.

3 THE CUSTOMER’S INITIAL TRUST MODEL

Based on initial studies, a customer initial trust model has been developed. This model extends previous models; and it can be used for studying initial trust in IBS, which may ultimately lead to the intention to use IBS. This model has been developed based on the existing models that examined initial trust in internet banking (Kim & Prabhakar 2004; Susanto et al. 2013) and mobile banking (Kim et al. 2009). The key elements of the proposed model based by from the existing models are disposition to trust, organizational structural assurance, organisational situational normality, reputation, relative advantage, technical structural assurance, security, and privacy. Moreover, it includes new elements such as the national culture dimensions, the compatibility of the service, and computer and internet self efficacy. The proposed model elements and their relationships are shown in figure 2.

All antecedents are categorized in human related factors and technological related factors. Human related factors defined as “any factor affects human decision either it relates to him/ herself or from the surrounded human structured environment” (Aljaafreh et al. 2013). Human related category includes: disposition to trust, institution based trust, reputation, national culture, compatibility, and relative advantages. On the other hand, the other category named “information technology category”
which includes factors related to information technology (technical structural assurance, security, privacy, and computer and internet self efficacy).

Figure 2. Customer’s initial trust model

The following sections define the main categories, the factors within categories, and explain the relationships between these constructs.

3.1 Initial trust

Initial trust is operationalised as the status quo in which consumers trusted an unfamiliar e-vendor (McKnight et al. 2002b). Previous studies found that consumer’s initial trust significantly influence customer’s intention to deal with unknown e-vendor (Gefen et al. 2003), intention to adopt IBS (Kim & Prabhakar 2004; Susanto et al. (2013), and to adopt mobile banking (Kim et al. 2009). In one hand, the result of customer’s initial trust is intention to use IBS in Jordanian context. In the other hand, customer’s initial trust will be impacted by many factors which are categorised within two categories: human related factors and technological related factors.

3.2 Human related

Human related category includes three groups which are trust antecedents which includes four factors: Disposition to trust, Organizational structural assurance, Organisational situational normality, and Reputation, diffusion of innovation theory factors includes relative advantages and compatibility, and national culture factors which include power distance, uncertainty avoidance, individualism vs. collectivism, masculinity vs. femininity, long-term vs. short-term orientation. These factors are explained in detail in the following paragraphs.

Disposition to trust (propensity to trust) which is defined as a propensity or tendency to believe in the positive attributes of others in general (McKnight et al. 2002b). Although disposition to trust is considered as an important antecedent and one of the trust base, empirical studies’ results varied regarding its significance. For instance, Susanto et al. (2013) and Li et al. (2008) found that there is no
significant impact of disposition to trust on initial trust, yet; the majority of the studies agreed upon that disposition to trust play a significant role in forming initial trust.

Organizational structural assurance: this factor is defined by Lin et al. (2008, p.47) as safeguards such as promises, contracts, regulations, and guarantees are in place of the transaction. Doney & Cannon 1997) argued that structural assurance in organisation plays significant role in building customer’s trust. Structural assurance create safe and secure environment which in turn direct customer’s feeling to believe that the other party (i.e. bank) has not any intention to behave defectively. Moreover, Li et al. (2006, 2008) and Yousafzai et al. (2009) found that organisational structural assurance affect significantly customer’s initial trust.

Organisational situational normality: it is defined as the belief that success is likely because the situation is normal (Li et al. 2008). It has been reported that organizational situational normality has had significant positive relationship with trusting beliefs.

Reputation: it is defined as the extent to which buyers (customers) believe that the selling organization (banks) is honest and concerned about its customers (Doney and Cannon 1997). Reputation is included in the proposed model because it has been reported as of the significant factors that influence initial trust formation (McKnight et al. 2002a; Li et al. 2008; Yousafzai et al. 2009; Eastlick & Lotz 2011; Susanto et al. 2013).

The second group of the proposed model contains factors from diffusion of Innovation theory (DoI). Originally, DoI contains five characteristics: relative advantages, compatibility, complexity, triability, and observability. In prior adoption research, Tornatzky and Klein (1982) confirmed that relative advantages, compatibility, and complexity have been found significant in this type of study. However, this study will examine relative advantages and compatibility only. The complexity of the innovation is omitted because of the context characteristics (i.e. the people had never used IBS so they didn’t know its level of complexity).

Rogers (1995) defined relative advantages as those advantages that the new services offer rather than the existing service has: economic benefits, enhanced personal image, convenience and satisfaction. Significant and positive impact has been found for relative advantages on initial trust (Kim et al. 2009; Susanto et al. 2013). The second factor is compatibility. It defined as “The degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters” (Rogers 1995, p.15). Compatibility was found as a significant factor which reduces the level of risk perception and enhances customer’s trust in 3G mobile banking services (Lee et al. 2003 Cited in Lin 2011).

Finally, the third group of human related category is national culture. Hofstede (1997) identified five cultural dimensions which are:

- Power Distance Index (PDI): the extent to which the less powerful members of group or society accept and expect that power is unequally distributed.
- Uncertainty Avoidance Index (UAI): the extent to which the members of group or society feel threatened by unknown situations.
- Individualism vs. Collectivism (IDV): the extent to which individuals are integrated into groups.
- Masculinity vs. Femininity (MAS): the extent to which gender roles are assigned in a culture.
- Long-Term vs. Short-Term Orientation (LTO): a society’s preference to be more forward looking or future oriented.

Gefen & Heart (2006) reported the impact of national culture on trust attitudes and their outcomes in e-Commerce. In addition, An & Kim (2008) found that online trust is affected by its interactions with the cultural norms. Furthermore, Doney et al. (1998) stated that culture has significant influence on essential base of trust. The proposed model included the impact of national culture on the initial trust which has not been examined in the context of developing countries such as Jordan.
3.3 **Technological related**

We define this category as the factors which directly related to information technology itself. This category contains four factors: technical structural assurance, internet and computer self efficacy, perceived security, perceived privacy. The following paragraph details these factors.

- **Technical structural assurance**: This factor is defined as “The belief that the web has protective legal or technological structures that assure that web business can be conducted in a safe and secure manner” (McKnight et al. 2002b, p. 304). Many researchers examined online structural assurance and its importance in forming initial trust (Li et al. 2008; McKnight et al. 2002a, b; Kim and Prabhakar 2004; Kim et al. 2009; Gefen et al. 2003).

- **Internet and computer self efficacy**: Compeau and Higgins (1995, p.191) defined it as “an individual’s perception of his or her ability to use computer (and internet) in the accomplishment of a task”. This factor was investigated in empirical studies which focused on adopting new innovations (e.g. Alomari et al. 2012). In the context of trust, researchers found that familiarity of the online environment positively affect initial trust of such eServices (Alsagher 2010; Eastlick and Lotz 2011; Li et al. 2008).

- **Perceived security**: for the purpose of this study, security is the level in which the users feel that their information on the internet is secure. Many researchers focused on the security of the online environment as an important factor for adopting the new IS/IT (Lee 2009; Zhou 2011). Also, security in trust context play vital role in building trust or initial trust (e.g. Chen & Barnes 2007).

- **Perceived privacy**: In this study, privacy is defined as the level in which users feel that their information on the internet is private. Privacy was found as one of the important factors that significantly influence customer’s trust in IBS (Yousafzai et al. 2009; Susanto et al. 2013).

4 **DISCUSSION**

This paper introduced the initial trust model in the context of IBS adoption in developing countries. This model provides a set of important trust factors and their relationships. This model builds on the analysis of existing models and theories; and addresses their short comings. Most of the factors of the proposed model are distilled from the related models and theories published in the public domain.

However, customer’s initial trust model is distinguished from existing model in many ways: firstly, it discusses the initial trust model in the specific context of developing countries, which has not been studied before. Secondly, the proposed model includes the additional and most important factor of national culture, which is highly relevant to the subject and scope of the studies presented in the paper. Our initial study indicated the detailed analysis of the national culture impact on the customer’s initial trust.

The proposed model has both research and practical implications. The model is intended to fill the research knowledge gap due to lack of studies in the context of online trust in developed countries, especially Arab countries. Further, the proposed model is intended to be empirically examined in Jordan and the results will be used by local banks to understand the customer’s motivations to trust IBS and introduce necessary changes to motivate and enhance their customers’ trust in IBS.

Finally, the scope of this study is limited to developing countries – especially Jordan. However, we have full confidence that results from this study can be further enhanced and generalise to different other context.

5 **CONCLUSION**

This paper presented an initial trust model in context of IBS adoption by customers in developing countries such as Jordan. This study analyses and integrates factors and theories from three major disciplines: (1) psychology (trust theory including disposition to trust, organisational structural assurance, organisational situational normality, and reputation), (2) social science (Hofstede’s culture theory including power distance, uncertainty avoidance, individualism, masculinity, and long term orientation), and (3) information technology (diffusion of innovation theory including relative
advantages and compatibility, other technical factors: technological structural assurance, internet and computer self efficacy, perceived security, and perceived privacy). This new model offers a number of new insights related to customer initial trust in the context of developing countries such as national culture. This study is an attempt to fill the research gap due to lack of initial trust studies in the developing countries context. This model can be used by both researchers and practitioners to study and analyse the initial customer trust in IBS; and make recommendations to enhance the customer trust in IBS usage in developing countries. This model will be further evaluated and updated if necessary; and the research results will be reported as an on-going contribution to both research and industry.

6 REFERENCES


DOS (2012). Survey the use of information technology within homes 2012 analytical report, Department of Statistics, Jordan.


