# ***The Impact of Trust on Acceptance of Online Banking***

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***Abstract***: Major benefits of Online Banking include for banks cost savings, and for customers convenience. Nevertheless, many people perceive Internet banking as risky. This paper introduces a tentative conceptual framework. Trust will be integrated into the Technology Acceptance Model – TAM - (Davis, 1989). Recent research showed that Trust has a striking influence on user willingness to engage in online exchanges of money and personal sensitive information. Detailed literature about Online Banking and Trust is provided. TAM is discussed in depth; external variables that are suitable for the Online Banking context is suggested. In addition the theoretical justification for the conceptual framework integration is discussed. Finally managerial implications and recommendations for Online Banking acceptance are suggested.

## 1. Introduction:

Banking is a highly information intensive activity that relies heavily on information technology (IT) to acquire, process, and deliver the information to all relevant customers. Banks used the Internet technology as a strategic weapon to revolutionize the way they operate, deliver, and compete against each other (Seitz and Stickel, 1998). As a result Online Banking was introduced as a channel where bank customers could perform their financial transactions electronically via their banks' Web sites. An Online Banking user is expected to perform at least one of the following transactions online:

1. Checking account balance and transaction history
2. Paying bills
3. Transferring funds between accounts
4. Requesting credit card advances
5. Ordering checks
6. Managing investments and stocks trading

From a bank's perspective, using the Internet is more efficient than using other distribution mediums because banks are looking for an increased customer base. Using multiple distribution channels increases effective market coverage by enabling different products to be targeted at different demographic segments (Wang, et. al, 2003). Also Banks cannot risk loosing customers to competitors within the aggressive competition in the banking industry around the world. Moreover Internet delivery offers customized service to suit the needs and the likes of each user (Dannenberg and Kellner, 1998). Mass customisation happens effectively through Online Banking. It reduces cost and replaces time spent on routine errands with spending time on business errands. Online Banking means less staff members, smaller infrastructure demands, compared with other banking channels (Fredriksson, 2005). From the customers' perspective, Online Banking provides a convenient and effective way to manage finances that is easily accessible 24 hours a day, seven days a week. In addition information is up to date. Nevertheless Online Banking has disadvantages for banks like how to work the technology, set-up cost, legal issues, and lack of personal contact with customers. And for customers there are security and privacy issues.

The advantages of Online Banking outweigh the disadvantages for both banks and their customers. Nevertheless organizations' investment in computer-based tools (e.g. Online Banking) is risky. These tools improve performance but end users often are unwilling to use them (Davis, et. al, 1989). So why many bank customers do not consider the online option for performing their bank transactions? As Mols et al. (1999) stated, "the diffusion of Online Banking is more determined by customer acceptance than by seller offerings".

The importance of this paper comes in the attempt to extend a model to better predict and explain users' acceptance of Online Banking. According to Sutton (1998) proponents of Theory of Reasoned Action – TRA - (Fishben and Ajzen 1975), and its derivatives, the Technology Acceptance Model – TAM - (Davis 1989) and the Theory of Planned Behaviour – TPB - (Ajzen 1991) believe that there is a room for improvement. There are frequent attempts to extend existing models by incorporating additional explanatory variables aiming for accounting more for the variance. The authors argue that integrating Trust in to TAM as a social construct will offer better prediction of users' acceptance of Online Banking. In addition, one criticism of the current TAM studies is that there are very few investigations that target the study of the factors (i.e., the external variables and other beliefs) that affect PU and PEOU (Gefen and Keil, 1998). This paper will overcome this gap. This paper develops a tentative conceptual framework that aims to predict users' Online Banking acceptance behaviour.

**2. Theoretical Background:**

There are a number of Socio-Cognitive models that predict and explain end user behaviour such as Online Banking. The most prevalent is the TRA and it is derivatives, TAM and TPB. These models follow the Attitude - Behaviour paradigm that suggests that actual behaviour is declared through intention toward the behaviour. Intention is influenced by attitude and finally salient beliefs influence attitude. The online context requires a model that considers computer usage. Davis (1989) introduced TAM (Figure 1) as an extension of the TRA but with more focus on computer usage context.

**2.1 Technology Acceptance Model**:

User acceptance is the biggest barrier to the success of new Information Technology – IT - (Gould, *et al.*, 1991). Davis suggested that adopting an application happens primarily because of the functions it performs and secondarily for how easy or hard is it to make the system perform these functions. Moreover TAM provides bases for tracking the impact of the external factors on internal beliefs, attitude and intention (Davis, *et al.*, 1989). TAM has proved valid both inside and outside the organization context (e.g. Davis, 1989; Lu *et al.*, 2003). It is capable of explaining user behaviour across a broad range of end-user computing technologies and user populations (e.g. Davis, 1989; Davis, *et al.*, 1989; Bagozzi, *et al.*, 1992; Taylor and Todd, 1995; Moon and Kim, 2001). Because of its parsimony and the wealth of recent empirical support for it, TAM has become popular (Agarwal and Prasad, 1999). O'Cass and Fenech (2003) suggested that TAM's robust and parsimonious structure allow applications in other technological adoption situations with the right adjustments. The model specifies the casual linkages between the key beliefs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), and also users' attitudes, intention and adoption behaviour (Davis, *et al.*, 1989).

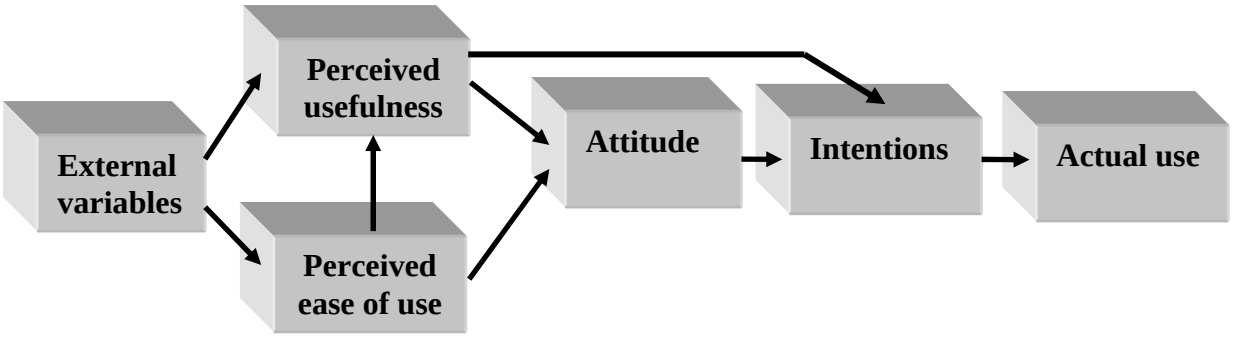


**Figure 1.** Technology Acceptance Model

**Source**: Davis, 1989

Actual behaviour is 'the manifest, observable response in a given situation with respect to a given target' (Ajzen 2002). TAM assumes that behaviour is volitional. Intention is an indication of a person's readiness to perform the given behaviour (Ajzen 2002). This paper consider Online Banking acceptance as the actual behaviour.

Attitude is 'the degree of evaluative affect that an individual associates with using the target system in his / her job' (Davis, 1993). According to East (1997), attitude is what we feel about a concept, which may be any entity about which we can think and to which we can attach feeling. Attitude plays an important role in adopting computer technology (e.g. Swanson, 1988; Davis et al. 1989) and actual usage (e.g., Ives et al. 1983; Swanson 1987). Ajzen and Fishben (1980) suggested two types of attitude: (i) attitude toward objects – a person's affective evaluation of a specified attitude object, and (ii) The second type of attitude is attitude toward action (behaviour) – a person's affective evaluation of specified behaviour involving the object. There is little evidence that attitude toward objects stimulates action (Bagozzi, et al. 1992) so attitude toward action is employed for this conceptual framework. TAM makes more specific the TRA generic attitudinal determinants that have to be driven separately for each behaviour, with a set of two variables specific to the technology acceptance context. Bagozzi, et al. (1992) found that TAM's attitudinal determinates outperformed TRA's.

According to East (1997) salient beliefs are beliefs that come to mind easily, are easily recorded and occur frequently in a group. An innovation of TAM is that the two related beliefs PU and PEOU could be generalized across different settings. TAM was designed for modelling the uptake of technology in the workplace. In this context perceived usefulness is the extent to which an individual finds using the system will enhance her/his job performance (Davis, 1989). TAM assumes that a person engages in behaviour because she or he has evaluated the benefits in that behaviour and expects a certain result (Dishawa and Strong, 1999). Users do not use a system for its own sake, they use it because of the attributes, which drive value according to the utility provided by the combination of attributes less the disutility represented by their sacrifices in using the system (Snoj *et al.,* 2004). Extensive research has proved the significant effect of PU on attitude and intention (e.g. Davis *et al.,* 1989; Venkatesh and Davis, 1996, Venkatesh, 1999; Agarwal and Prasad, 1999; Venkatesh and Morris, 2000). In fact PU has proved most of the time that it is the most significant variable in behaviour, attitude and intention.

Perceived ease of use is the degree to which a person believes that using a system will be free of effort (Davis *et al,* 1989). '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' (Davis, 1989). There is considerable evidence of the significant effect of perceived ease of use on attitude, either directly or indirectly through its effect on perceived usefulness (e.g. Davis *et al.*, 1989; Venkatesh and Davis, 1996; Venkatesh, 1999, 2000; Agarwal and Prasad, 1999; Venkatesh and Morris, 2000). TAM shows that PEOU is antecedent of PU and the former can be seen more as a state while the second is more of a process (Eriksson, *et al.*, 2005). PEOU operates primarily through PU because PU may reflect considerations of both benefits and costs. PEOU may be seen as part of the cost (Davis, 1993). Applications that are easy to use are less threatening (Moon and Kim, 2001) and perceived to be more useful to the user. For two Information systems that have identical functions, the one that is perceived easier to use is going to be perceived more useful. On the other hand if the system is perceived useless, ease of use will not lead to adoption.

PEOU and PU are influenced by external variables. According to Fishbein and Ajzen (1975) external stimuli influence a person's attitude toward a behaviour indirectly by influencing his / her salient beliefs about the consequences of performing the behaviour. External variables vary according to the context. Different variables have been used as external variables in TAM research (e.g. Computer Anxiety, Computer Self-efficacy, Playfulness, Information Richness, Task Characteristics, Experience). The suitable external variables for the Online Banking context will be discussed in the conceptual framework part.

**2.2 Trust**

Trust is 'the belief that the promise of another can be relied upon and that, in unforeseen circumstances, the other will act in a spirit of goodwill and in benign fashion toward the Trustor' (Suh and Han, 2002). Trust saves people money and effort by reducing monitoring and legal contracts (Fukuyama 1995) and also provides measures for the expected outcome (Kumar 1996). Trust plays a major rule in e-commerce on account of the absence of proven guarantees that an e-vendor will not get engaged in harmful opportunistic behaviour, and also because the environment is less regulated. Many authors have agreed that Trust is more important in the e-commerce context than in bricks and mortar or any other channel (e.g. Harris and

Good, 2004; Gefen 2000; Reichheld and Schefter 2000 Jarvenpaa et al. 2000, Gefen, et al., 2003).

Trust is very important in relations that involve social uncertainty and risk (Fukuyama 1995). This is relevant to e-retail limited web interface because it does not allow customers to judge whether a vendor is Trustworthy or not. As a result, social uncertainty and risk is higher in e-retailing than in brick and mortar relations (Reichheld and Schefter 2000, Gefen, et al. 2003).

Trust is at the heart of all kinds of relationships (Morgan and Hunt 1994). Customers generally stay away from an e-service provider whom they do not Trust (Jarvenpaa and Tractinsky, 1999; Reichheld and Schefter, 2000). They are willing to pay premium prices to Trusted e-retailers (Sotgiu and Ancarani, 2005). Trust has been included in many fields and theories including; contractual relations theory (Macneil, 1980), interaction theory (Hakansson, 1982), organizational theory (e.g., Bradach and Eccles, 1989), psychology (e.g., Rushton, 1980), social psychology (e.g., Blau, 1964), transaction cost economics (e.g., Nooteboom, *et al.*, 1997), Trust theory (e.g., Gambetta, 1988), online exchange (e.g. Stewart, 2003) and more recently online banking.

Online Banking transactions contain very sensitive information about customers (Gefen, 2000; Morgan and Hunt, 1994). Individuals fear providing sensitive information such as financial details on the net, as a result of security defects and distrust of service providers (Suh and Han 2002). The establishment of Trust and confidence plays a major role when providing financial services (Palmer and Bejou, 1994). Forming Trust (e.g. Cognitive Based Trust and Disposition Based Trust) before experience should have a significant impact on customer intention toward Online Banking acceptance. The question of Trust is more important in the Online Banking environment than in the offline-banking environment (Ratnasingham 1998). Trust as a belief gives credit to others before experience and is very important in the initial stages of a relationship. Reichheld and Schefter (2000) argued that this disposition is very important with inexperienced online customers.

## 3. Conceptual Framework and Hypotheses Development

Numerous empirical studies have found that TAM consistently explains a substantial proportion of the variance, on average 40% (Venkatesh and Davis, 2000). Hundreds of studies have proved TAM as a capable model that predicts and explains IT acceptance even with comparison to other models (e.g. Bagozzi, 1992)

Trust is "the variable most universally accepted as a basis of any human interaction or exchange" (Gundlach and Murphy 1993, p. 41). Trust is a must in most business relationships (Dasgupta, 1988; Fukuyama, 1995; Gambetta, 1988; Ganesan, 1994; Moorman et al. 1992), especially those containing an element of risk, including interacting with an e-vendor (Reichheld and Schefter, 2000; Gefen et al., 2003). In an online shopping study, Gefen et. al. (2003) integrated Trust into TAM as a belief and concluded that Trust had the same significance on intention as PEOU. In the Online Banking context, Suh and Hn (2002) found Trust to have almost the same impact on attitude as PU, which was the strongest variable of attitude prediction. Therefore PEOU, PU, and Trust are proposed to be key dimensions in the study of Online Banking acceptance.

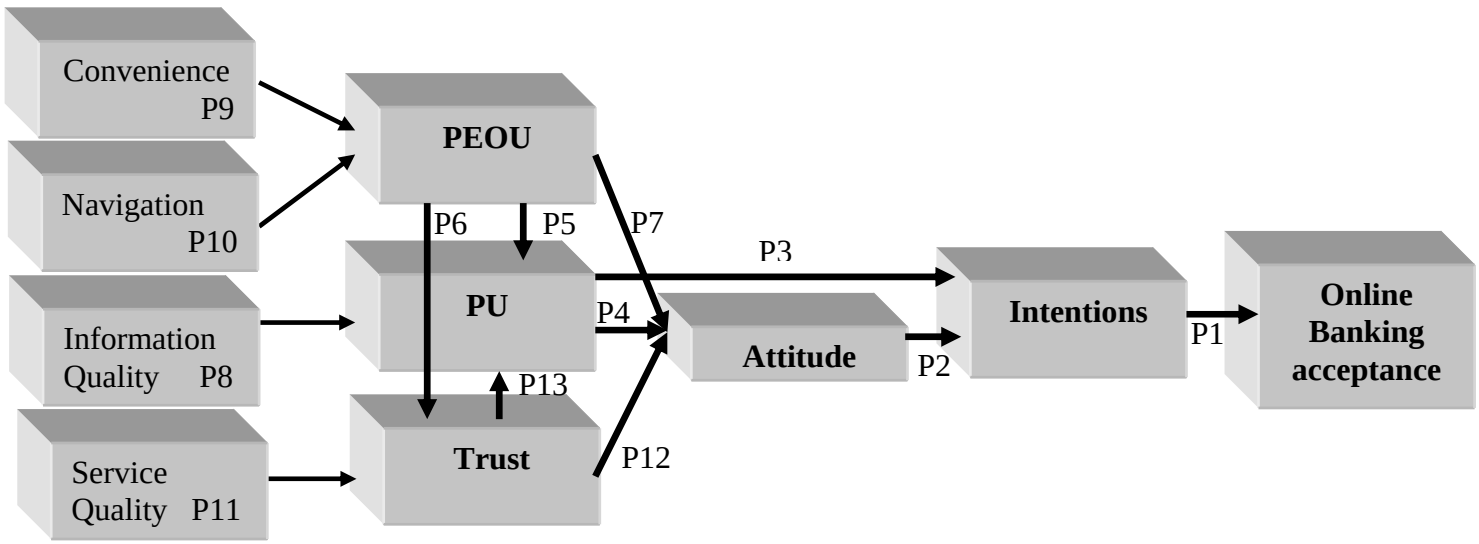


**Figure 2**. The Conceptual Framework

The conceptual framework (Figure. 2) contains the three elements described by Peter and Olson (2005) that should appear in any comprehensive analysis in consumer behaviour; environment (e.g. Information Quality, Convenience, Navigation, and Service Quality), affect and cognition (e.g. PEOU, PU, Trust, Attitude, Intention) and

behaviour (e.g. Online Banking). Beliefs are related to the cognition, nevertheless Peter and Olson themselves suggested the affect and cognition area are richly connected by neutral pathways.

Given the sufficient time and knowledge about a particular behaviour activity, an individual stated preference to perform the activity is usually declared in the form of intention that resembles the way he / she do behave (Rawstorne, *et al.*,2000). In a study of Online Banking acceptance, behavioural intention impacted actual use significantly Suh and Han (2002). Sheppard et al. (1988) in a Meta analysis of 87 studies found that intention and behaviour correlation reported on average 0.53, therefore we propose that:

P1. Intention has a positive significant effect on actual behaviour

Online Banking offers customers a variety of choices and as a result attitude impact becomes more important in predicting the behaviour. Attitude toward an action exists as a unidimensional reaction toward the action as a whole (Ajzen and fishben, 1980). At least 500 measures of attitude have been proposed, yet all of them have one thing in common, they refer to people's evaluations (Peter and Olson, 2005). Since attitude resides in the mind, precedes and produces behaviour, it is used to predict behaviour. Attitude impacts intention significantly in the online banking context (e.g. Tan and Toe, 2000)

P2. Attitude has a positive significant effect on intention

Beliefs are seen as meaningful variables in their own right, which function as behavioural variables and are not regarded as surrogate measure of objective phenomena (Davis 1989). TAM fixed beliefs PU and PEOU exhibited the largest effect sizes on technology use (e.g. Moon and Kim, 2001, Fusilier & Durlabhji, 2005). Empirical evidence suggests that PU and PEOU are distinct dimensions.

PU has a direct influence on Attitude (Davis, 1989). PU has also been one of the strongest variables impacting usage intention, with a standardized regression coefficient typically around 0.6. (Venkatesh and Davis, 2000). People form intention

toward behaviours that they believe will enhance their performance. This enhancement is instrumental in achieving various rewards that are extrinsic to the behaviour (Davis, *et al.*, 1989).

P3. PU has a positive significant effect on intention
P4. PU has a positive significant effect on Attitude

PEOU has been demonstrated to have significant direct effect on PU and Attitude (Davis, 1989). PEOU is a stronger predictor of intention for those who perceive the Internet as less useful (Fusilier & Durlabhji, 2005). Gefen et al., (2003) has demonstrated that PEOU increases Trust, this happens through the perception that e-vendors are investing in its relationship with customers.

P5. PEOU has a positive significant effect on PU
P6. PEOU has a positive significant effect on Trust
P7. PEOU has a positive significant effect on Attitude.

An individual's affect toward using a system is determined jointly by the extrinsic and intrinsic rewards of using the system (Davis, 1993). Davis (1989) noted that future research is needed to address how other variables effect PU, PEOU, and user acceptance of IS. "External variables" can be added to TAM as a way of improving the model's predictive power (Davis *et al.*, 1989; Davis, 1993). Past Online Banking acceptance research has focused on the utilitarian aspects of the external environment (e.g. self-efficacy, computer-anxiety). However the increased competition between service providers has forced them to offer more interactive hedonic environment even in utilitarian contexts as a differentiation strategy. As a result, users have started to consider the hedonic aspects of the web even in utilitarian contexts like Online Banking. The authors argue that in addition to the web utilitarian aspects (e.g. Information quality and service quality) hedonic aspects (e.g. Navigation, Convenience) of the external environment in the Online Banking context should have significant impact on the internal beliefs. The external variables are suggested based on the past literature, and their suitability with the Online Banking context.

Customers use the web for self-education and information needs. Useful information can be acquired quickly, easily, and cheaply through the web. Information is critical for learning about product characteristics and alternatives, deciding requirements, and gaining knowledge to take informed decisions. On the e-commerce context Liu and Arnett, (2000) found that one of the behavioural intention antecedents is quality of information. Information adds value to the user and as a result the system should be perceived as being more useful. Pikkarainen *et al.,* (2004) found that Online Banking information is critical factor in influencing acceptance.

P8. Information quality will have a positive significant effect on PU

Online Banking offers convenience to its customers through time savings, and the 24 hours 7 days a week banking services without queuing or any other hustle. Dennis's and Papamatthaiou's (2003) study of e-shopping motivations found that convenience significantly correlated with intentions for online shoppers. Researchers have found a positive relationship between convenience perception and the use of Online Banking (Polatoglu and Ekin, 2001; Gerrard and Cunningham, 2003).

P9. Convenience will have positive significant effect on PEOU

Navigation 'Is the flexibility in tracking down products and information and the ability to move fluidly through the shopping environment' (Dennis and Papamatthaiou, 2003). A useful navigation structure influences traffic and sales on a web site by increasing the availability of information (Lohse and Spiller 1998). Navigability helps in finding the right set of products or services and comparing them to competitors' offers.

Customers like a website that is easy to navigate to accomplish their research, to obtain accurate complete information, and to improve their decision making process. Gefen, et al., (2003) has suggested usability and navigability will make users perceive a website as easy to use. Navigation has proved significant in several TAM studies (e.g. Childers *et al.* 2001; Chau et al., 2002)

P10. Navigation will have positive significant effect on PEOU

Service quality is a popular variable in Trust literature. Strong attitude affects behaviour when customers are influenced by service quality (Lociacono et al. 2000). Perceived service quality is defined as the customer judgment about superiority or excellence of a product (Zeithaml, 1988). Quality assessment does not need customer experience (Cronin and Taylor, 1994). Service quality revolves around the idea of customers comparing their expectations about the service with their perception of the way the service has been performed (Gronroos, 1984). Lehtinen and Lehtinen (1982) suggested three dimensions of service quality; interaction, physical and corporate quality. Caruana and Berthon (2000) suggested two dimensions 'process' and 'output'. This is similar to Gronroos's two suggested dimensions; 'functional' - how a service is provided - and 'technical' – what is received by customer -. The former is concerned with the psychological interaction during the exchange transaction, which is based on customer perception and is therefore extremely subjective. The impact Service Quality on trust as a belief on the Online Banking context has yet to receive researchers' attention. Based on the previous discussion we propose that:

P11. Service Quality will have positive significant effect on Trust

Venkatesh and Davis (2000) found that the internal psychological variables (PU and PEOU) fully mediated the effects that all other variables in the external environment may have on an individual's use of an innovation. This appealed to contradict Davis (1993), who found a small but significant direct influence of system characteristics on attitude toward using. This suggests that PU and PEOU may not be the only beliefs mediating between system and attitude. Gefen et al. (2003) suggested that technology-based and Trust-based antecedents should work together in e-commerce with any particular e-vendor.

Recent research has indicated that "Trust" has a striking influence on user willingness to engage in online exchanges of money and personal sensitive information (e.g. Friedman *et al.*, 2000). Gefen and Keil (1998) argued that a model of technology acceptance with more social dimensions requires that Trust be included as an antecedent to perceived usefulness and ease of use. Researchers found Trust issues and risk perception to be crucial drivers of Online Banking adoption (Bradley and

Stewart, 2002). Trust creates positive expectations about outcomes by transforming uncertain future actions into certain ones (Hosmer 1995).

Some researchers have viewed Trust as an intention (Gefen, 2000; Hosmer, 1995; Moorman et al., 1992; Mayer et al., 1995). Trust intention is one's willingness to depend on the other party even though one cannot control it (McKnight and Chervany 2002). The majority of previous research has viewed Trust as a belief (Ganesan, 1994; Gefen and Silver, 1999; Gefen et al., 2003). Many researchers have conceptualized Trust as a set of beliefs, defined as 'set of specific beliefs dealing primarily with the integrity (Trustee honesty and promise keeping), benevolence (Trustee caring and motivation to act in the Truster's interest), competence (ability of Trustee to do what the Truster needs), and predictability (Trustee's behavioural consistency) of a particular e-service vendor (McKnight and Chervany, 2002; Ganesan, 1994; Gefen and Silver, 1999). Others viewed Trust as a general belief (Gefen 2000; Hosmer 1995; Moorman et al. 1992).

Trust is a multidimensional variable (Mayer et al., 1995; McKnight and Chervany 2002) that is made of cognitive and affective components (McAllister, 1995; Johnston, 1996). Some researchers have suggested that trust directly affects intention (e.g., McKnight and Chervany 2002, Gefen, *et al.*, 2003; Stewart, 2003). The combination of the specific Trust beliefs of integrity, benevolence, predictability, and ability increases the behavioural intention through reducing risk among potential but inexperienced customers (Jarvenpaa and Tractinsky 1999). Many researchers have suggested that Trust affects intentions indirectly. Jarvenpaa et al. (2000); McKnight and Chervany (2002); and Pavlou (2003) have all suggested that trust impacts intention through positive attitude. This relationship draws from the notion of 'perceived consequences'. Past research has used perceived consequences, PU, and perceived value mutually. Trust creates value by providing relational benefit derived from interacting with a service provider and reducing the exchange uncertainty (Chiou, 2004). Usefulness contains both technological and non-technological aspects, Trust is related to the later. Pavlou and Fygenson, (2005) suggested that trust is an antecedent of both attitude (due to confident expectations) and controllability (due to uncertainty reduction). Gefen et al. (2003) found the higher the levels of Trust, the more the website was perceived as useful. McKnight et al. (1998) has integrated Trust

into TRA, suggesting Trust as a belief that affects attitude, which in turn results in the intention to engage in Trust related behaviour with specific e-service supplier.

Because Trust reduces social complexity it also results in customers subjectively ruling out undesirable yet possible behaviours of the e-vendor. Conceptualizing trust as a belief is consistent with the behaviour specific nature of TAM (Pavlou and Fygenson, 2005). To be consistent with the TAM foundation and to allow the integration between Trust and TAM, in this framework Trust is conceptualized as a set of beliefs.

P12. Trust will have a positive significant effect on attitude.
P13. Trust will have positive significant effect on PU.

**4. Conclusion and Managerial Implications**

Developing new products and services like Online Banking can attract new customers and retain existing ones. Nevertheless customer acceptance is a key driver determining the rate of change in the financial sector. Many empirical studies have demonstrated TAM as a parsimonious and robust model of technology acceptance behaviour. TAM suggests that users adopt technology primarily because of its functions and of the easiness of benefiting from those functions. Trust plays an important role in increasing the usability under the online banking environment. Trust should be considered in addition to PU and PEOU where sensitive information is manipulated. Integrating Trust as a set of beliefs into TAM should result in a model that offers better prediction of Online Banking acceptance. The contribution of this article comes from extending TAM by integrating Trust as a social construct and considering the characteristics of the online banking environment.

This study could help banks to refine their strategic planning and enhancing their competitive advantage. For example banks should advertise publicly the safety and informative issues rather than building brand awareness. Moreover information availability and timesaving should be promoted as well, as emphasizing the lower charges for online transactions. Banks could increase online banking awareness through organizing training courses. A perception of service quality will increase banks image of good service, accuracy and effectiveness.

Banks should give attention to designing easy to use, useful and trustworthy systems. The relationship between Trust and Online Banking use is apparent. Tomiuk and Pinsonneault (2001) stated that 'Aside from the customer direct experience, factors like reputation, endorsement and positive word of mouth may affect Trust development'. It is important for banks to build an innovative reputation, because customers are likely to place their trust in well-known innovators (Bradley and Stewart, 2002).

It is recommended that this conceptual framework be applied or tested in developing and developed countries. We speculate that this conceptual framework generally could be applicable to Online Banking in a range of different cultures and countries.

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