

**Building Trust in E-Banking: Where is the Line between Online and Offline Banking?**

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**Abstract**

This paper examines the role of situational normality cues (online attributes of an e-banking website) and structural assurance cues (size and reputation of the bank, and the quality of traditional service at the branch) in a consumer's trust in and use of e-banking. Data were collected from a survey and a usable sample of 202 was obtained. Hierarchical moderated regression analysis was used to test the model. Results show that traditional service quality and website features that give customers confidence build trust in e-banking. Bank managers should use good service at the branch as an opportunity to build trust in e-banking.

Keywords: trust, service quality, e-banking, relationship marketing

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### **Introduction**

Online banking or e-banking has experienced phenomenal growth in recent years (Fox and Beier, 2006); nonetheless, the growth rate in e-banking has not kept pace with that of general Internet usage. This gap can be attributable to the lack of trust among bank customers - particularly in light of escalating cyber-crimes and identity theft (Gerrard *et al.*, 2006). This study propose that this lack of trust can be overcome with a better understanding of factors that can boost customers' trust for e-banking, such as traditional service quality, the size and reputation of the bank, and the features of the e-banking website.

### **Literature Review and Theoretical Framework**

The nature of online service delivery gives rise to a lack of trust in e-banking among some customers as there is no direct physical contact between buyer and seller. This spatial distance means that customers cannot use the physical cues, such as observing the salespeople or the physical office/store space, to judge trustworthiness (Reichheld and Schefter, 2000). Trust plays a large role in determining consumers' initial and continued use of the e-banking service (Suh and Han, 2002; Rexha *et al.*, 2003; Lichtenstein and Williamson, 2006). Trust is, in turn, derived from two components: situational normality and structural assurance (McKnight *et al.*, 1998; McKnight and Chervany, 2002; Balasubramanian *et al.*, 2003). Situational normality refers to trustees' beliefs that "everything seems in proper order" (Lewis and Weingert, 1985, p. 974); while structural assurances refer to "trustees beliefs that protective structures in place are conducive to situational success" (McKnight and Chervany, 2002, p. 48). These are two cues by which customers use to evaluate the trustworthiness of an e-banking service. Situational normality cues are sought from the online attributes of the e-banking website and structural assurances cues are sought from traditional bank attributes.

### **Online and Offline Attributes of Banking**

Balasubramanian *et al.* (2003) propose that the virtual attributes of the e-banking website create the situational normality which one uses to create trust in the online environment. Attributes such as a well-designed customer interface provide the cognitive cues for a sense of normality. Past studies in this area have classified online attributes into four factors: perceived security, perceived privacy, perceived usefulness and perceived ease of use (Koufaris and Hampton-Sosa, 2004; Hampton-Sosa and Koufaris, 2005; Casalo *et al.*, 2007; Vatanasombut *et al.*, 2008). In order for a customer to trust e-banking, he/she must be made to believe that the transactional medium is secure and that any information provided to the website would not be intercepted or given to a third party (Suh and Han, 2003). This study will test the hypothesis: *H1a-d: Perceived attributes of the e-banking website – (a) security, (b) privacy, (c) usefulness, and (d) ease of use – have a positive effect on trust in e-banking.*

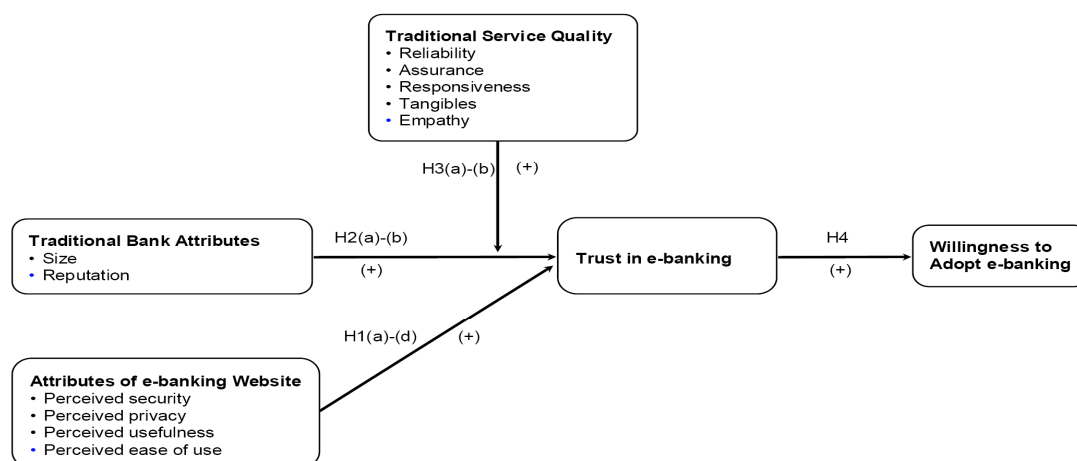
The size of a firm is often regarded as a proxy for security and trustworthiness: if a firm is large, it must have performed well in order to have grown to such a size (Doney and Cannon, 1997; Jarvenpaa *et al.*, 2000; Chen and Dillon, 2003). Moreover, firm size is a heuristic for the capacity to deliver a reliable service. Several studies have established the relationship between firm size and trust for the firm (Doney and Cannon, 1997; Jarvenpaa *et al.*, 2000; Koufaris and Hampton-Sosa, 2004). A bank's reputation is also indicative of its trustworthiness: a 'trustworthy' bank has more incentive to prevent the loss of such a reputation (Casalo *et al.*, 2007). Past research suggests that perceived reputation creates trust in e-banking (Mukherjee and Nath, 2007); however, this has not been empirically tested. The

second hypothesis in this study is thus: *H2a,b: The perceived (a) size, and (b) reputation of a bank has a positive effect on trust in e-banking.*

Research in e-banking has largely revolved around *electronic* service quality (Azola and Robaina, 2005; Parasuraman *et al.*, 2005; Ibrahim *et al.*, 2006; Fassnacht and Kose, 2007; Shamdasani *et al.*, 2008); however, “e-service quality” cannot be assessed if a customer has not yet adopted any e-banking services. The quality of service delivered through traditional channels is what most bank customers are familiar with and accustomed to; hence, in-person service quality is effectively a *de facto* indication of the quality of other services, including e-banking. Service that exceeds customer expectations builds trust that can be harnessed to cross-sell other products (Fassnacht and Kose, 2007; Liu and Wu 2007). It can be argued that a large and reputable bank may be endowed with a high propensity for its customers to trust its e-banking service, but poor traditional service quality over the counter would negate the size and reputation effect, which in turn, raises doubts about e-banking. The SERVQUAL conceptualisation of traditional service quality provided by Parasuraman *et al.* (1988) is useful for this study. The third hypothesis to be tested summarises the idea that the structural assurance for e-banking that size and reputation may provide is augmented by high traditional service quality at the bank’s branch: *H3a-b: Traditional service quality positively moderates the relationship between trust in e-banking and the bank’s perceived (a) size, and (b) reputation.*

Trust is essential in situations where risk and uncertainty exist (Mayer *et al.*, 1995) and the online environment encapsulates these factors. Increased trust will positively influence a customer’s attitude towards and use of e-banking (Jarvenpaa *et al.*, 2000; Liu *et al.*, 2005). The fourth and final hypothesis to be tested is: *H4: Trust in e-banking has a positive effect on the willingness to adopt e-banking.*

**Figure 1: Proposed Model**



## Methodology

A cross-sectional survey was administered using an instrument containing 89 items adapted from established scales from past studies measuring respondents’ expectations, perceptions and attitudes regarding the service quality of their primary bank (Parasuraman *et al.*, 1985), perceptions of the size and reputation of their primary bank (Doney and Cannon, 1997), perceptions of the bank’s e-banking website attributes (Pavlou, 2003; Suh and Han, 2003; Kim and Ahn, 2006; Pavlou and Fygenon, 2006), their trust in their primary bank’s e-

banking website (Doney and Cannon, 1997; Jarvenpaa *et al.*, 2000; Pavlou, 2003), and their willingness to adopt it (Pavlou, 2003; Kim and Ahn, 2006; Verhagen *et al.*, 2006). Each item was measured on a 7-point Likert scale with '0' denoting the low end and '6' the high end. The questionnaire was then pre-tested, refined, and reviewed for content validity. A non-probability sample of faculty and administrative staff was selected across 10 departments of a large Australian university. The survey was administered using a mix of paper and online methods. The data collection process yielded a total of 218 returned questionnaires, of which 202 passed manipulation checks and were usable. The response rate was 34.8%.

## Results

Exploratory factor analysis was conducted using *principal components* extraction with *varimax* rotation. The items in each factor were then tested for scale reliability using standard Cronbach alpha indices. The results of the exploratory factor analysis on service quality items yielded five factors as per Parasuraman *et al.*'s (1991) analysis (all alpha are no lower than 0.625). Items measuring traditional attributes of the bank formed two factors as expected: perceived size (alpha = 0.894) and perceived reputation (alpha = 0.828). Four dimensions were extracted for online attributes of the e-banking website but the proposed classification of security, privacy, usefulness, and ease of use in past studies was not replicated. Based on the nature of items, the four dimensions were subsequently re-classified to represent *Clarity*, *Control*, *Confidence*, and *Confidentiality* (all alpha are no lower than 0.857). Trust for e-banking and willingness to adopt e-banking are single-factor constructs with alphas of 0.926 and 0.957, respectively.

To test H1, which is the relationship between attributes of the e-banking website and trust in e-banking, a simultaneous regression analysis was conducted. Only *Confidence*-related attributes of the e-banking website had a significant influence on trust for e-banking (Beta = 0.381,  $t=3.524$ ). The *Confidence* factor is comprised of items that give the customer a sense of confidence in dealing with the e-banking website which include: "*The transactions I send are transmitted to the real site which I want to transmit to*" and "*All communications with my bank's website are restricted to the website and me*". The coefficients for all other factors were not significant; thus, H1 received only partial support.

To test the relationship between traditional bank attributes and trust in e-banking (H2), as well as, the moderating effect of traditional service quality (H3), hierarchical moderated regression, as proposed by Baron and Kenny (1986), was conducted. Results in Table 1 show that the models with bank size and service quality had significantly improved R-squared values from the model with bank size alone. For all five models, none the coefficients for bank size were significant and all of the coefficients for service quality were; thus suggesting that it is traditional service quality, and not bank size, that has a positive influence on trust in e-banking. The five models with bank size and service quality as independent variables were re-tested for its explanatory power by including the cross-product of both variables to each model. A significant increase in the R-squared value indicates that a moderating effect exists, but only for the Reliability dimension (Table 2). Results summarised in Table 3 indicate that bank reputation has a direct positive influence on trust in e-banking. When tested against Model 2 (bank reputation and service quality as independent variables), only models with Reliability, Tangibles and Assurance dimensions had a significantly higher R-squared value. Explanatory power of these models did not improve with the inclusion of the cross-product (Model 3). Results in Table 4 indicate that the influence of traditional service quality and trust in e-banking vary with the service quality dimension.

**Table 1: Bank Size and Service Quality - Model Summary Change Statistics**

Dependent variable: Trust in e-banking															
	Empathy			Reliability			Tangibles			Assurance			Responsiveness		
Model	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
R2	.003	.029	.029	.002	.063	.086	.001	.031	.032	.006	.065	.071	.002	.025	.028
R2 Change	.003	.026	.000	.002	.061	.024	.001	.030	.001	.006	.058	.007	.002	.024	.003
F Change	.530	5.061	.029	.321	12.387	4.906	.178	5.902	.176	1.133	11.382	1.286	.323	4.570	.542
Df	188	187	186	191	190	189	193	192	191	183	182	181	190	189	188
Sig.	.467	<b>.026</b>	.864	.572	.001	<b>.028</b>	.673	<b>.016</b>	.675	.288	<b>.001</b>	.258	.571	<b>.034</b>	.463

Model 1 = Bank size; Model 2 = Bank size + Service quality;

Model 3 = Bank size + Service quality + (Bank size x Service quality)

**Table 2: Selected Model Coefficients**

	Empathy Model 2		Reliability Model 3			Tangibles Model 2		Assurance Model 2		Responsiveness Model 2	
	Size	Empathy	Size	Reliability	Size x Reliability	Size	Tangibles	Size	Assurance	Size	Responsiveness
Sig.	.289	<b>.026</b>	.233	<b>.004</b>	<b>.028</b>	.695	<b>.016</b>	.276	<b>.001</b>	.527	<b>.034</b>
Beta	.078	<b>.164</b>	-.126	<b>.982</b>	<b>-.775</b>	.028	<b>.173</b>	.078	<b>.242</b>	.046	<b>.154</b>
t	1.064	<b>2.250</b>	-1.196	<b>2.898</b>	<b>-2.215</b>	.392	<b>2.429</b>	1.092	<b>3.374</b>	.634	<b>2.138</b>

**Table 3: Bank Reputation and Service Quality - Model Summary Change Statistics**

Dependent variable: Trust in e-banking															
	Empathy			Reliability			Tangibles			Assurance			Responsiveness		
Model	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
R2	.068	.071	.089	.061	.081	.090	.064	.084	.085	.051	.077	.077	.075	.079	.091
R2 Change	.068	.003	.018	.061	.021	.009	.064	.021	.000	.051	.026	.000	.075	.004	.012
F Change	13.312	.562	3.541	12.002	4.200	1.725	12.689	4.251	.018	9.632	4.923	.022	14.865	.752	2.477
Df	183	182	181	186	185	184	187	186	185	178	177	176	184	183	182
Sig.	<b>.000</b>	.454	.061	.001	<b>.042</b>	.191	.000	<b>.041</b>	.893	.002	<b>.028</b>	.881	<b>.000</b>	.387	.117

Model 1 = Bank reputation; Model 2 = Bank reputation + Service quality;

Model 3 = Bank reputation + Service quality + (Bank reputation x Service quality)

**Table 4: Selected Model Coefficients**

	Empathy Model 1	Reliability Model 2		Tangibles Model 2		Assurance Model 2		Responsiveness Model 1
	Reputation	Reputation	Reliability	Reputation	Tangibles	Reputation	Assurance	Reputation
Sig.	<b>.000</b>	.059	<b>.042</b>	<b>.002</b>	<b>.041</b>	.107	<b>.028</b>	<b>.000</b>
Beta	<b>.260</b>	.157	<b>.170</b>	<b>.224</b>	<b>.147</b>	.135	<b>.185</b>	<b>.273</b>
T	<b>3.649</b>	1.901	<b>2.049</b>	<b>3.136</b>	<b>2.062</b>	1.621	<b>2.219</b>	<b>3.855</b>

A regression analysis was conducted to test the relationship between trust in e-banking and willingness to adopt it (H4). The R-squared for the model is 0.385 and the regression coefficient of 0.741 is significant. This result supports the hypothesis (H4) that trust in e-banking has a positive influence on the willingness to adopt e-banking.

### Discussion and Implications

The results suggest that traditional service quality plays a more important role in influencing trust in e-banking than does the size of the bank. The association between service quality and

attitudes and behaviours towards counter service banking has been well established (Zeithaml *et al.*, 1996; Fassnacht and Kose, 2007; Yap and Sweeney, 2007); nonetheless, the customer experience goes beyond counter service and now encompasses alternative media of service delivery (Semijin *et al.*, 2005). For customers who are new to e-banking, they often rely on counter staff to help them with e-banking (e.g. explain the features of e-banking, help set up the e-banking account). The lack of a significant relationship between bank size and trust in e-banking is a surprising result; therefore, it is proposed that the confidence that customers derive from receiving good service at the bank's branch will outweigh any potential structural assurance that customers infer from dealing with a large bank. Results also show that bank size only comes into play when customers assess the reliability of the traditional service before trusting the e-banking website. A negative moderating effect on the reliability-trust relationship implies that a larger bank has to work harder to provide a reliable service in order to build sufficient trust in e-banking. If service at the branch is poor, the size of bank cannot be relied upon to build trust. The mixed findings on the influence of a bank's reputation suggest that there is some hierarchy to which service quality dimensions have a greater influence on trust in e-banking. Wong *et al.* (2008) reported the expectations ranking of service quality dimensions in the following order: Reliability (highest expectations), Assurance, Responsiveness, Tangibles, and Empathy (lowest expectations). Higher-order service quality dimensions become more salient than the bank's reputation in building trust. After all, the customer would like to know that the bank can at least *consistently* deliver on its promises and can do so *dependably*.

Website attributes that give customers a sense of confidence are salient. Customers want to be given a sense of security or reliability before trusting this technology, which is a notion supported by Suh and Han (2003). Given that the items which coalesced into the Confidence dimension primarily relate to a consumer's confidence in communicating with the website, the results imply that banks should ensure that users are given clear indications of what the website is doing at all times.

The positive relationship between trust in e-banking and willingness to adopt it concurs with findings by Liu *et al.* (2005). Researchers and managers should view trust as a predisposition to behaviour or behavioural intentions towards e-banking and perhaps other technological service offerings.

Finally, where is the line between online and offline banking? Should there be one? This study suggests that bank managers need to recognise that the customer experience with the bank's service is integrated and seamless. Good service at the branch may give rise to a *halo effect* – where customers reason that good service they receive at the counter is indicative of good service they are about to receive online, or from any other product that is cross-sold to them (Patricio *et al.*, 2003).

This study is limited by its non-probability sampling technique, and its scope is limited to Australia, where the Internet is a mature technology. These results may not be generalisable to other countries where technological maturity of the Internet has not been reached. Future research should take an integrated approach by examining other brick-and-mortar factors that play a role in the adoption of online services such as e-banking. This study, along with that of Patricio *et al.* (2003) and Flavian *et al.* (2006), are a good point of departure for further research in this area.

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