

Factors Affecting Internet Banking Success: A Comparative Investigation between Indonesia and South Korea

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ABSTRACT

Internet banking is a prominent example of Internet-based applications. Previous research has found that satisfaction, trust, commitment, and loyalty are important factors for Internet banking success. Resistance to adopt Internet banking is often attributed to the role of trust, security, and privacy in e-commerce systems. This study proposes a framework to examine behaviors toward Internet banking services in Indonesia and South Korea. A research model was empirically tested with data captured in a large-scale study. The results show that Indonesians' use of Internet banking is strongly influenced by perceived security, while Koreans use of Internet banking is strongly influenced by privacy concerns. Trust and user satisfaction have a greater influence on loyalty for Indonesians while commitment has a greater influence on loyalty for Koreans. The study develops related conclusions including a discussion of the research implications.

Keywords: Commitment, Commitment-Trust Theory, Information Success (IS) Success Model, Internet Banking, Loyalty, Privacy, Satisfaction, Security, Technology Use, Trust

INTRODUCTION

Electronic banking (e-banking) diffusion continues to expand worldwide. Internet banking offers mutually beneficial services that save

cost and time, offer prompt, real-time service and an increasing set of features (Tomiuk & Pinsonneault, 2001). The dramatic growth for Internet banking services corresponds with a growth in disposable income in developing countries and the ascent is striking in regions historically considered as having a cash culture.

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Internet banking growth is driven by an increased need for more flexible and convenient financial services. A system like Internet banking may be evaluated in terms of information, system, and service quality using the Information Success (IS) success model (DeLone & McLean, 2003). Internet banking usage is distinct from general IS applications because Internet banking offers valued-added services which deliver sensitive information. Security and privacy are important dimensions of Internet banking success that are necessary to examine along with quality characteristics. Management that is able to leverage insights gained from the burgeoning field of Internet banking, such as an understanding of inhibitors and accelerants, are likely to seize first-mover advantage benefits.

Banks fulfill customers' needs by providing satisfactory, acceptable, and reliable services. Overall satisfaction is an essential condition for the success of organizations through cultivating a long-term, mutually beneficial relationship which leads to customer loyalty. Banks consider customer loyalty a necessary condition of profitability. Establishing a mutually beneficial relationship with banking customers typically comes at a relatively high cost, but retaining these relationships generates profit over time (Aldas-Manzano, Ruiz-Mafe, Sanz-Blas, & Lassala-Navarre, 2011; Molla & Licker, 2001). Few studies have extensively examined the relationships among factors which influence Internet banking success, like consumers' loyalty (Aldas-Manzano et al., 2011), security, privacy, and trust (Yousafzai, Pallister, & Foxall, 2003).

Previous research has explored several factors associated with IS success in the e-commerce area, such as system quality, information quality, service quality, consumer satisfaction, use, and net benefits (DeLone & McLean, 1992, 2003, 2004; Molla & Licker, 2001). E-commerce success is also strongly related to trust (Corbitt, Thanasankit, & Yi, 2003; Koufaris & Hampton-Sosa, 2004), security and privacy (Gibbs, Kraemer & Dedrick, 2003; Chan & Lu, 2004), uncertainty and information infringement (McKnight, Choudhury, & Kacmar, 2002b), commitment (Casalo et al.,

2007), and loyalty (Aldas-Manzano et al., 2011). These factors are all elements of successful online commerce (McKnight et al., 2002b) and e-banking (Suh & Han, 2002; Centeno, 2004; Flavian, Guinaliu, & Torres, 2005).

Not all individuals are eager to utilize e-banking services. A significant number of people with bank accounts that actively access the Internet may still prefer the use of non-Internet banking services like Automatic Teller Machines (ATMs) (Shih & Fang, 2006). The primary reasons that individuals resist using e-banking include a lack of trust (Pikkarainen et al., 2004; Mukherjee & Nath, 2003) as well as uncertainty, security, and privacy concerns (Tan & Teo, 2000; Shih & Fang, 2006; Casalo et al., 2007; Aldas-Manzano et al., 2011). A comparison of Internet banking influences among multiple countries does not exist.

This study examines factors that influence Internet banking success using a cross-country comparison between a developed (South Korea) and developing (Indonesia) country. A better understanding of the constructs that influence Internet banking usage is possible in this study compared with previous studies which tend to focus more on American and European contexts (Pikkarainen, Pikkarainen, Harjaluoto, & Pahlila, 2004; Chan & Lu, 2004). Technology usage factors are expected to vary from one country or culture to the next, which are insights that are unexplored and should greatly benefit practitioners.

Knowledge in the IS and e-commerce literature is expanded by examining the interrelationships among factors that influence Internet banking success, such as consumers' commitment and loyalty. Website design quality has a significant impact on online initial purchase (McKnight et al., 2002b), but few research has examined the effect of website design quality and service quality on repeated online transactions (Zhou, Lu & Wang, 2009). Banks are expected to highly attune to customer needs as satisfaction is a critical factor proven to influence long-term relationships through retention (Garbarino & Johnson, 1999; Morgan & Hunt, 1994). High quality, convenient, and reliable

Internet banking services are prerequisites to attaining banking satisfaction, trust, and loyalty (Aldas-Manzano et al., 2011). In addition to factors that influence consumer trust formation, researchers have requested that security and privacy be examined separately in the Internet banking context (Yousafzai, Pallister, & Foxall, 2003; Casalo, Flavian, & Guinaliu, 2006). This study addresses these calls from the literature.

This study has value for practitioners and researchers because it examines the perceptions of Internet banking customers and reveals factors that may lead to higher levels of commitment and loyalty. Data is collected from Internet banking users in South Korea and Indonesia. A research model and corresponding hypotheses are examined based on the IS Success model and commitment-trust theory. The study concludes with a discussion of study findings and implications for both practitioners and researchers.

THEORETICAL BACKGROUND

The Growth of Internet Banking Use

The evolution of e-commerce in the United States since the mid-90s has given rise to Internet banking that facilitates an individual's daily financial transactions (Chan & Lu, 2004). Internet banking is growing worldwide through the support of online auctions, online shopping, and other e-commerce applications. Widespread utilization of credit cards as the prominent payment method and Electronic Fund Transfer (EFT) through ATMs are also responsible for Internet banking growth (Centeno, 2004).

Mobile banking is expected to accelerate online financial transactions, particularly in Asian countries.

Internet banking has improved the ability for organizations to satisfy customers' needs in an online environment. Trust, security and privacy, technological attributes, and infrastructure are all important factors for Internet banking in the United States (Chan & Lu, 2004; Centeno, 2004). Corporate image, trust, security and privacy, and loyalty in Spain (Flavian et al., 2005; Casalo et al., 2007; Aldas-Manzano et al., 2011), online trust in Finland (Pikkarainen et al., 2004) and organizational factors in the United Kingdom (Shah & Siddiqui, 2006) are all factors important for Internet banking in Europe.

Demographic differences between Indonesia and South Korea (see Table 1) likely influence Internet usage (International Telecommunication Union, 2010; Korea Internet and Security Agency, 2011; Nguyen, 2011). South Korea has many more online banking users in comparison to Indonesia, but Indonesia has the highest growth rate of online banking users in Southeast Asia (Nguyen, 2011). Differences in culture and socio-economic conditions also influences Internet banking implementations (Brown, Hoppe, Newman, & Stander, 2004; Centeno, 2004) which may impact how consumers in both countries build perceptions relative to technology system use. Higher income and purchasing power influences e-commerce sales (Gibbs et al., 2003), which are dependent upon Internet banking to facilitate transactions. The rate of Internet penetration has increased significantly in Indonesia and South Korea (The International Monetary Fund, 2011).

Table 1. Internet banking demographics in Indonesia and South Korea for 2011

	Internet Usage Population (in thousand)	Broadband Subscribers (in thousand)	IB Services Customers (in thousand)	Banks with IB Services (in unit)	GDP per capita (in US Dollar)
Indonesia	39,600	1,900	749	20	3,464.81
South Korea	39,440	17,650	15,764	19	22,961.25

IS Success Model

The DeLone & McLean (1992) IS success model is one of the most widely-applied theories in the IS literature, has been utilized in multiple contexts, and has contributed to the understanding of IS implementation success. DeLone and McLean postulated six interdependent dimensions (1992) that significantly affect IS success: system quality, information quality, usage, user satisfaction, and individual and organizational impacts. DeLone and McLean subsequently refined their model to include service quality with system and information quality (2003), although the value of service quality is questionable (Chung & Kwon, 2009). The refined IS success model incorporated intention to use within the model as well as reformulating two impact constructs into a single construct, net benefits (DeLone & McLean, 2003). User satisfaction and intention to reuse are also measures of net benefits (Wang, 2008).

The IS success model accounts for the impact of an IS implementation and uses it as an interdependent variable (DeLone & McLean 1992; 2003) which leads to satisfaction and the intention to reuse/loyalty (Wang, 2008). The intention for continued usage has been validated in the Internet banking context (Vatanasombut, Igbaria, Stylianou, & Rodgers, 2008). Satisfaction is an important dimension in the IS success model because multiple factors influence it like system, information, and service quality. Satisfaction is also dependent upon factors like website qualities and information structure, including a web-based system like Internet banking (Chung & Kwon, 2009).

The IS success model is an overall research framework that addresses three divergent levels: technical, semantic, and effectiveness (DeLone & McLean, 1992; 2003; 2004). The technical level refers to system quality dimensions (e.g., ease of use, functionality, reliability, and data quality) while the semantic level represents information quality (e.g., accuracy, timeliness, relevance, consistency, and completeness). The effectiveness level engenders service quality,

which includes tangibility, responsiveness, assurance, and empathy (DeLone & McLean, 2003, 2004).

The 'usage' construct in the DeLone and McLean success model has been challenged as an appropriate measure of IS success (Molla & Licker, 2001) for its multi-dimensional nature and inconsistencies in IS adoption (Wang, 2008). The IS success model is appropriate for evaluating IS/e-commerce implementations, usage (DeLone & McLean, 1992; 2003), and organizational performance (Molla & Licker, 2001). The IS success model captures beliefs, attitudes, and behaviors, including the variable "intention to reuse" which indirectly captures e-commerce systems success compared to other measures of success (Wang, 2008).-

Factors that influence IS success may be dependent upon the research context. Different measures of IS success must be applied for specific IS and organizations (DeLone & McLean, 2003). Appropriate factors relevant to the Internet banking context are incorporated in the study's proposed model.

Commitment-Trust Relationship

Commitment plays an important role in successfully developing and maintaining a mutual and valued relationship among involved parties (Moorman, Zaltman, & Deshpande, 1992; Morgan & Hunt, 1994; Garbarino & Johnson, 1999; Fullerton, 2003). Commitment is an influential mediator among transactional factors such as trust, shared values, and quality (Fullerton, 2003; Morgan & Hunt, 1994). Trust influences an exchange relationship while commitment represents a willingness to maintain stronger relationships between two parties and indicates a completion of trust (Moorman et al., 1992). The commitment-trust relationship mediates relationship termination costs, relationship benefits, shared values, communication, and opportunistic behavior with five results, acquiescence, propensity to leave, cooperation, functional conflict, and decision making uncertainty (Morgan & Hunt, 1994).

Shared values are the degree that individuals have common beliefs such as objectives, conduct, and policies (Morgan & Hunt, 1994). Shared values also extend to the degree in which individuals share security and privacy concerns (Mukherjee & Nath, 2003). Communication is a multidimensional construct that involves perceived expectations and the quality of timely, well-informed, and responsive communication (Morgan & Hunt, 1994; Mukherjee & Nath, 2003). Shared values and communication are expected to influence consumer trust-building.

Previous e-commerce studies have validated the significance of trust in e-commerce transactions (e.g., McKnight et al., 2002b) and in Internet banking (Suh & Han, 2002; Lee & Chung, 2009; Pikkarainen et al., 2004). Trust is necessary to establish a successful relationship (Moorman et al., 1992; Morgan & Hunt, 1994; Garbarino & Johnson, 1999). Fundamentally diverse definitions of trust exist (Mayer et al., 1995), which is driven by the inherent complexity of trust (McKnight et al., 2002a). Multiple perspectives on trust result in disorganized conclusions, particularly on the antecedents and outcomes of trust as well as with the construct of trust itself (Mayer, Davis, & Schoorman, 1995).

Mayer et al.'s (1995) definition of trust has become widely utilized as an appropriate conceptualization in the IS and e-business/e-commerce domain (Rousseau, Sitkin, Burt, & Camerer, 1998). Trust includes disposition to trust, institution-based trust, trusting beliefs, and trusting intentions (McKnight et al., 2002a). Three aspects of trust are the foundation of trustworthiness; skill and competency, benevolence, and integrity (Mayer et al., 1995). Trust is also theorized through calculative-based trust based on economic assumptions (Rousseau et al., 1998) and knowledge-based trust based on accumulative experience (McKnight et al., 2002a). Trust is associated with a variety of personal processes within the buyer-seller relationship, such as calculative, prediction, capability, intentionality, and transference processes (Doney & Cannon, 1997).

Loyalty

Satisfaction is a post-adoption perception based on an evaluation-disconfirmation of the performance of a product or service. Satisfaction is important for an organization to retain customers as satisfaction establishes a successful long-term relationship with customers (Chung & Kwon, 2009; Oliver, 1980). Consumer satisfaction is an indication of positive disconfirmation resulting from a comparison between pre-purchase expectations and post-purchase performance (Oliver, 1980).

Consumer loyalty occurs after satisfaction exists with a product or service. Loyalty is expressed through one's favorable commitment to repurchase a product or service over time, regardless of switching behavior (Aldas-Manzano et al., 2011). Consumers tend to become loyal through a cumulative experience based upon their commitment that affects their behavioral intention to repurchase a product or service.

Aldas-Manzano et al. (2011) argued that loyalty is distinct from consumers' repurchase intention even though loyalty and intention are conceptually related. Attitudinal loyalty identifies a consumer's repeat purchase intention while behavioral loyalty results from a consumer transaction. Wang (2008) conceptualized loyalty as the intention to reuse while Vatana-sombut et al. (2008) operationalized loyalty as a customer's intention to continue using online banking services. Consumers' loyalty towards Internet banking is shaped once their attitude towards such services are perceived satisfactorily, which leads to a repurchase behavior.

RESEARCH MODEL AND HYPOTHESES

Prior research has empirically validated the importance of trust, security and privacy, consumer satisfaction, and loyalty for e-commerce implementations, including in the Internet banking context. This study extends the DeLone and McLean IS success model by incorporating

aspects of commitment-trust theory. The study posits that consumers' decisions to continuously use Internet banking services are determined by three dimensions, user satisfaction, trust, and commitment, which ultimately builds loyalty. Perceptions of trust and risk may confound results in an e-commerce context (Cheung & Lee, 2006) and the effect of perceived risk in Internet banking adoption is unknown in some cases (Brown et al., 2004). Perceived risk is not examined in this study, though risk may influence trust (Mayer et al., 1995).

This study incorporates multiple aspects from commitment-trust theory including shared values, communication, trust, and commitment. Satisfaction, trust, and commitment are employed as mediators to explicate their influence in Internet banking success, which affects loyalty as a single dependent variable. Commitment and trust are essential for establishing successful Internet banking relationships (Morgan & Hunt, 1994; Vatanasombut et al., 2008). Consumer's perceptions of security and

privacy are shared values that have been shown to influence online success and are incorporated in this study (Gibbs et al., 2003; Chan & Lu, 2004). Figure 1 illustrates the research model.

This study examines differences in the Internet banking usage perceptions between two separate countries with relatively similar cultural backgrounds. Indonesia and South Korea have similarities in general cultural dimensions, particularly with respect to Individualism-Collectivism, Masculinity-Femininity (MAS), and Indulgence-Restraint (IVR) indices. Indonesians and Koreans have moderate differences in other cultural dimensions such as Power Distance (PDI), Uncertainty Avoidance (UAI), and Long-term Orientation (LTO) (Hofstede, Hofstede, & Minkov, 2010). The national cultural dimension scores between Indonesia and South Korea are listed in Table 2 (Hofstede et al., 2010).

Indonesia and South Korea are both classified as collectivist cultures which generally value equal and modest cooperation between

Figure 1. Research model

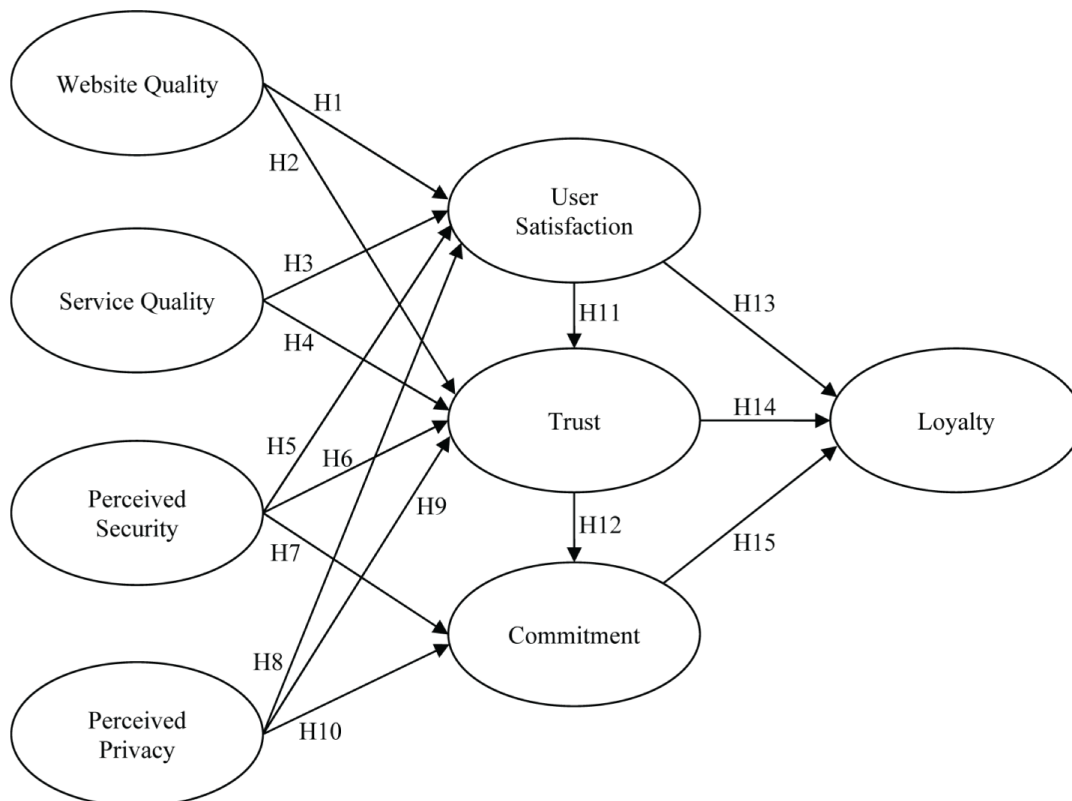


Table 2. National culture differences between Indonesia and South Korea

	PDI	IDV	MAS	UAI	LTO	IVR
Indonesia	78	14	46	48	62	38
South Korea	60	18	39	85	100	29

(Notes) PDI = Power Distance, IDV = Individualism versus Collectivism, MAS = Masculinity versus Femininity, UAI = Uncertainty Avoidance, LTO = Long-Term Orientation, IVR = Indulgence versus Restraint

men and women, but also have relatively strict social norms. Indonesians are considered to be more open and inclusive in relationships than Koreans (Chen, French, & Schneider, 2006). Indonesia is comprised of hundreds of different ethnic groups that generally avoid conflict by maintaining harmonious relationships. Indonesians generally accept inequalities and expect a hierarchical order, which is different than South Koreans. South Korea has one ethnicity. South Koreans tend to feel more uncomfortable with uncertainty and ambiguity than Indonesians. South Koreans also exhibit a greater propensity to adapt to change and have a stronger disposition towards long-term results and perseverance than Indonesians. South Korea has a more well-developed infrastructure compared to Indonesia and in general are more technology literate.

Cross-cultural validation is not performed to minimize the complexity of this study (Brown et al., 2004). The role of trust may not vary across cultures, but culture may influence the trust-building process (Kim, 2008). Cross-cultural differences are not examined, but geographic location and nationality are employed as a proxy of culture (Mayer et al., 1995; Hofstede et al., 2010). Culture is also an important construct for the formation of trust (Doney & Cannon, 1997).

Hypotheses

The IS success model quality dimensions are what consumers perceive about a system like the quality of the user interface, website content, and information completeness. The IS success model posits relationships between quality dimensions such as that system and information quality are equally significant factors that influ-

ence a customer's overall satisfaction towards an Internet banking website. Website quality comprises both system and information quality (Aladwani & Palvia, 2002; McKnight et al., 2002a; McKnight et al., 2002b; Corbitt et al., 2003). System and information quality account for a greater impact on trust than user satisfaction (Lee & Chung, 2009). Consumers are satisfied when they experience reliable, competent, and responsive Internet banking services, which leads to the continuous use of such services. In the commitment-trust dimensions, communication is a multidimensional construct having a reciprocal relationship between the organization and the customer. Communication is closely related to "meaningful and timely information quality", which affects customer trust formation (Mukerjee & Nath, 2003). Internet banking services that are considered secure, complete, reliable, accurate, and responsive are more likely to enhance customers' satisfaction and trust.

Previous research found that website quality influences consumers' perceptions of e-commerce (Corbitt et al., 2003; McKnight et al., 2002b; Kim, Xu, & Koh, 2004). Website quality builds trust (Kim et al., 2004; Corbitt et al., 2003) while service quality influences website success (Liu & Arnett, 2000). Website and service quality directly influence trusting beliefs (McKnight et al., 2002b). As a customer perceives Internet banking features to be of relatively high quality, the greater their satisfaction and trust will be with Internet banking. This study hypothesizes that:

- H1:** Website quality of Internet banking positively influences his/her satisfaction;
- H2:** Website quality of Internet banking positively influences his/her trust;

- H3:** Service quality of Internet banking positively influences his/her satisfaction;
- H4:** Service quality of Internet banking positively influences his/her trust.

Security and privacy are crucial factors in online transactions. An Internet banking website with a high level of security and a high concern for privacy can drive customers' satisfaction, given the sensitivity of data exchanged. A greater level of security and a better privacy policy can enhance customers' trusting intentions to be more committed to using Internet banking services. Security and privacy influence trust formation (e.g. Casalo et al., 2007; Kim, 2008; Koufaris & Hampton-Sosa, 2004), e-commerce and Internet banking success (Gibbs et al., 2003; Chan & Lu, 2004), as well as commitment to use Internet banking (Casalo et al., 2007).

Shared values are one aspect of the commitment-trust relationship and are common beliefs about appropriate behaviors, goals, and policies (Morgan & Hunt, 1994). Shared values capture the degree to which the bank and its customers share general beliefs on important factors, like security and privacy, which ultimately influence one's trust and commitment (Mukherjee & Nath, 2003). Previous research recommends examining security and privacy separately to reveal more information on the determinants of trust (Yousafzai et al., 2003; Casalo et al., 2007). Both perceived security and privacy influence consumer satisfaction (Szymanski & Hise, 2000) as well as relationship satisfaction (Abdul-Muhmin, 2005). Customers that perceive Internet banking as being relatively secure and private will positively influence their satisfaction and trust using Internet banking services. This study hypothesizes that:

- H5:** Perceived security positively influences his/her satisfaction to use Internet banking services;
- H6:** Perceived security on Internet banking positively influences his/her trust;

- H7:** Perceived security on Internet banking positively influences his/her commitment;
- H8:** Perceived privacy positively influences his/her satisfaction to use Internet banking services;
- H9:** Perceived privacy on Internet banking services positively influences his/her trust;
- H10:** Perceived privacy on Internet banking services positively influences his/her commitment.

As customers experience a satisfying condition using Internet banking, the satisfaction will influence customers' trust. Customer trust impacts their willingness to visit a bank's website more frequently and commit to continuously use Internet banking services. User satisfaction is a prerequisite for e-commerce success (Molla & Licker, 2001), a main driver of trust, and an important factor for building commitment (Garbarino & Johnson, 1999). Satisfaction significantly influences trust in e-commerce (Casalo et al., 2007; Flavian, Guinaliu, & Guerra, 2006; Rexha et al., 2003) as well as commitment and loyalty towards organizations (Flavian et al., 2006; Tomiuk & Pinsonneault, 2001; Aldas-Manzano et al., 2011). Satisfaction, trust, and loyalty are important outcomes used to gauge consumer responses (Doney & Cannon, 1997). A relatively high degree of satisfaction using Internet banking services will enhance a customer's trust intentions and loyalty towards continued use of Internet banking services. This study hypothesizes that:

- H11:** User satisfaction positively influences his/her trust to use Internet banking services;
- H12:** User satisfaction positively influences his/her loyalty to keep using Internet banking.

Previous studies have validated the importance of trust in successful e-commerce transactions, particularly in the Internet banking context. Trust influences e-commerce success (Corbitt et al., 2003) and Internet banking sus-

tainability (Suh & Han, 2002). Trust also drives commitment towards long-term relationships (Moorman et al., 1992; Morgan & Hunt, 1994; Garbarino & Johnson, 1999; Casalo et al., 2007; Vatanasombut et al., 2008) and loyalty towards reusing a service or a system (Aldas-Manzano et al., 2011; Kim et al., 2004; Tomiuk & Pinsonneault, 2001). Customers that perceive Internet banking services as trustable will be committed and loyal towards continued use of Internet banking services. This study hypothesizes that:

H13: Consumer trust positively influences his/her commitment to use of Internet banking;

H14: Consumer trust positively influences his/her loyalty to keep using Internet banking.

Acquiescence in the commitment-trust relationship is the extent one accepts a specific request or policy and is correlated with compliance (Morgan & Hunt, 1994). Loyalty is conceptualized in IS success as the intention to reuse (Wang, 2008) and continue using Internet banking (Vatanasombut et al., 2008). Loyalty is a customer's preference towards utilizing banking services and maintaining a continuous relationship with banks (Aldas-Manzano et al., 2011). Previous research has found that commitment leads to loyalty (Fullerton, 2003) and that brand loyalty (Morgan & Hunt, 1994) is a derivative of retention (Garbarino & Johnson, 1999; Liu & Arnett, 2000; Fullerton, 2003). Loyalty formation is expected to be influenced by customers' satisfaction, trust, and commitment from satisfying experiences using Internet banking services. These experiences precede what customers' perceive about quality dimensions like website quality and service quality as well as shared values regarding Internet banking security and privacy concerns. Customers that are more committed to using Internet banking services will exhibit loyalty towards continued use of Internet banking services. This study hypothesizes that:

H15: User commitment positively influences his/her loyalty to keep using Internet banking.

RESEARCH METHOD

This study utilized an integrated online and offline questionnaire to test the research model and hypotheses with 76.2 percent of the responses attained online and 23.8 percent offline. The questionnaire employed a seven-point Likert scale anchored on strongly disagree and strongly agree. Study participants with Internet banking service experience were solicited in Indonesia and South Korea using a lottery drawing as an incentive for respondents to participate in the study. 329 respondents undertook the survey resulting in 307 usable and complete responses. 159 and 148 usable responses were collected from Indonesia and South Korea respectively. The survey was conducted from November 2011 to February 2012. Respondent demographics are listed in Table 3.

76.55 percent of the South Korean survey respondents were male while 23.45 percent were female compared with 74.84 percent male Indonesia respondents to 25.16 percent female Indonesian respondents. Respondents had an average of greater than 5-10 years of Internet usage experience for both South Korea and Indonesia. The majority of Internet banking users in both countries was between 20 and 40 years old; 85.53 percent of Indonesian respondents and 92.57 percent of Korean respondents respectively. A majority of Indonesian study participants had at least either a Master's or Bachelor's degree (44.65 percent and 39.62 percent respectively) in comparison to mostly Master's and High School graduates (31.76 percent and 28.38 percent respectively) for South Korean participants. The majority of Indonesian respondents were employees as public servants. The majority of the Korean

Table 3. Respondent demographics

Respondents		Frequency		Percent	
		Indonesia (n = 159)	South Korea (n = 148)	Indonesia	South Korea
Gender	Male	119	116	74.84	78.38
	Female	40	32	25.16	21.62
Age	<20	2	4	1.26	2.70
	20-30	79	101	49.69	68.24
	31-40	57	36	35.85	24.32
	41-50	20	7	12.58	4.73
	>50	1	0	0.63	0.00
Education	High School	3	42	1.89	28.38
	Diploma	7	1	4.40	0.68
	Bachelor	63	32	39.62	21.62
	Master	71	47	44.65	31.76
	Doctoral	15	26	9.43	17.57
Profession	Employee	73	19	45.91	12.84
	Public Servant	58	1	36.48	0.68
	Entrepreneur	8	2	5.03	1.35
	Student	17	126	10.69	85.14
	Other	3	0	1.89	0.00
Internet Experience	<1 year	7	1	4.40	0.68
	1-2 years	6	1	3.77	0.68
	2-5 years	27	7	16.98	4.73
	5-10 years	58	23	36.48	15.54
	>10 years	61	116	38.36	78.38

respondents were students, but were appropriate for this study because they each engaged in frequent Internet banking service transactions.

Items borrowed from previous research were adapted to the Internet banking context (See Appendix A). Partial Least Squares (PLS) was employed to analyze the data using Smart-PLS 2.0. PLS is suitable for explaining the complex relationships among latent constructs (Chin, 1998). PLS is appropriate in this study to investigate the relationships between factors influencing loyalty towards Internet banking services.

RESULTS

Measurement Model

A confirmatory factor analysis (CFA) was performed to assess the estimated factor's reliability as well as convergent and discriminant validity (Chin, 1998; Hair, Black, Babin, & Anderson, 2009). Tests for reliability included assessing the construct's Cronbach alpha and composite reliability (CR) values, which were all above the recommended threshold of 0.7 (Hair et al., 2009). All measurements satisfied the criteria

for convergent validity having indicator loading scores greater than 0.7 with significant *t*-values as well as an average variance extracted (AVE) for all the latent constructs above the recommended threshold of 0.5 (Vinzi et al., 2009; Hair et al., 2009).

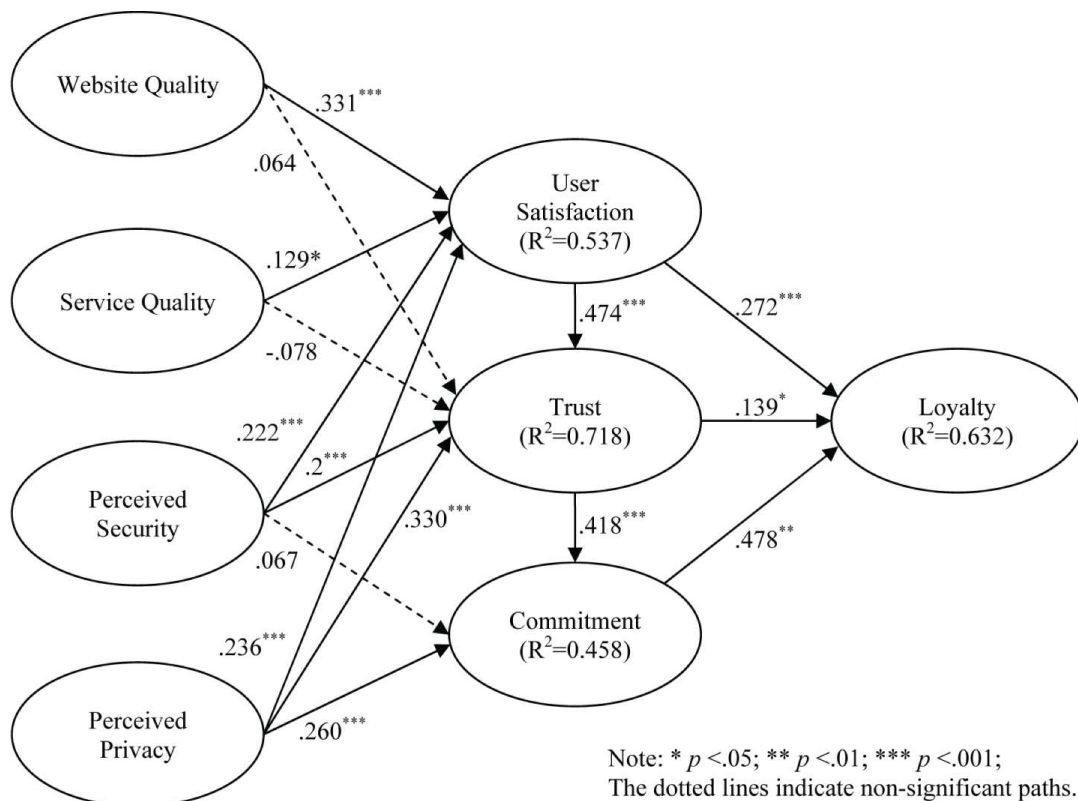
The cross-loading of each item and the square root of the AVE of constructs were evaluated to assess discriminant validity. The measurement item loadings should be higher on their assigned construct than on other constructs. The square root of the AVE should also be greater than all of the inter-construct correlations (Chin, 1998). The results satisfied the recommend criterion but the correlation coefficients between some constructs were relatively high. Multicollinearity and common method variance were subsequently assessed. A variance inflation factor (VIF) score of less than 10 indicates an absence of multicollinearity (Hair et al., 2009). The VIF score among each variable ranged between 1.234 and 2.724 in the Indonesian and South Korean samples,

respectively. Harman's single-factor test was also conducted and is the most widely used approach to assess common method variance. A single factor did not emerge in an exploratory factor analysis using both country samples and the first factors accounted for less than 50 percent of the total variance (Indonesia at 40.57 percent, Korea at 39.08 percent). The measurement model was both reliable and valid and is sufficient to conduct hypotheses testing (See Appendices C-D).

Structural Model

The majority of the proposed hypotheses were supported (see Figure 2). The relationships between website quality (H2) and service quality (H4) with consumer trust were not supported statistically as was the relationship between perceived security and commitment (H7). All mediating variables had a statistically significant relationship with loyalty. The research model explained 53.7 percent of the

Figure 2. PLS results of the structural model



variance in satisfaction, 71.8 percent in trust, 45.8 percent in commitment, and 63.2 percent of the variance in loyalty. The explanatory power of the measured model is sufficient.

Commitment had a statistically significant relationship with loyalty ($t=8.490, p<0.001$), while the relationships between user satisfaction and trust ($t=8.401, p<0.001$) as well as trust to commitment ($t=6.282, p<0.001$) also had statistically significant relationships with loyalty. Additional relationships were statistically significant and supported H1 (website quality to user satisfaction), H9 (perceived privacy to trust), H13 (user satisfaction to loyalty), and H10 (perceived privacy to commitment).

Cross-Country Analysis

This research also examined differences in Internet banking success between two countries. Cross-country comparisons were conducted by examining the path coefficients between multiple groups. A comparison of path coefficients has weak statistical power and there is no global criterion to compare multiple groups in a PLS study (Vinzi, Chin, Henseler, & Wang, 2009). One approach to differentiate cross-country results is to include country as a moderator in a regression model. A different approach that was performed in this study was to utilize pairwise t -tests to compare structural differences between path coefficients (Vinzi et al., 2009; Chin, 1998). The latter approach is suitable for

testing discrete moderators and illustrates the differences in the effects between groups (Vinzi et al., 2009). The test statistics were computed using the equation in Box 1.

Table 4 lists the cross-country comparisons between Indonesian and South Korean samples. Significant differences were found in four paths (H1, H5, H8, and H15) towards user satisfaction and loyalty. The path coefficient from website quality to user satisfaction for the South Korean case was significantly larger than the Indonesian case ($t=2.915, p<0.01$). The path coefficient from perceived security to user satisfaction for Indonesia was significantly stronger than for South Korea ($t=3.094, p<0.01$). The relationship between perceived privacy and user satisfaction was significantly larger for the South Korean sample than the Indonesian sample ($t=3.357, p<0.001$). Service quality had a greater relationship to satisfaction in Indonesia than in South Korea ($t=1.775$).

DISCUSSION

Theoretical Implications

The study results reveal interesting contributions to the e-commerce literature. This study has successfully extended the DeLone and McLean IS success model by incorporating aspects of commitment-trust theory. In addition to quality attributes as the critical determinants for

Box 1.

$$t = \frac{Path_{sample1} - Path_{sample2}}{\sqrt{\frac{(m-1)^2}{(m+n-2)} \times s.e.^2_{sample1} + \frac{(n-1)^2}{(m+n-2)} \times s.e.^2_{sample2}}} \times \sqrt{\frac{1}{m} + \frac{1}{n}} \sim t_{m+n-2}$$

with

$Path_{sample1/2}$ = the path coefficient in subsamples

m/n = number of cases in subsamples

$s.e._{sample1/2}$ = standard error of the path coefficient in subsamples

Table 4. Cross-country hypothesis comparison

Hypotheses		Indonesia (N=159)			South Korea (N=148)			Country Difference		
		P.C.	t-value	p-value	P.C.	t-value	p-value	P.C.	t-value	p-value
H1	WQ → SAT	0.123	1.338	0.181	0.455***	6.921	0.000	-0.332**	2.915	0.004
H2	WQ → TR	-0.042	0.608	0.543	0.105	1.567	0.117	-0.147	1.526	0.127
H3	SQ → SAT	0.283**	3.097	0.002	0.071	0.937	0.349	0.212	1.775	0.076
H4	SQ → TR	0.028	0.421	0.674	0.054	0.798	0.425	-0.026	0.269	0.788
H5	SEC → SAT	0.440***	5.241	0.000	0.098	1.367	0.172	0.342**	3.094	0.002
H6	SEC → TR	0.158*	2.167	0.030	0.255***	4.450	0.000	-0.097	1.042	0.298
H7	SEC → COM	0.031	0.388	0.698	-0.056	0.639	0.523	0.087	0.737	0.462
H8	PR → SAT	0.023	0.339	0.735	0.350***	5.068	0.000	-0.327***	3.357	0.001
H9	PR → TR	0.371***	5.585	0.000	0.285***	4.000	0.000	0.086	0.885	0.376
H10	PR → COM	0.185	1.839	0.066	0.183	1.644	0.101	0.002	0.014	0.989
H11	SAT → TR	0.420***	4.734	0.000	0.484***	6.890	0.000	-0.064	0.558	0.577
H12	TR → COM	0.420***	4.670	0.000	0.522***	4.311	0.000	-0.102	0.683	0.495
H13	SAT → LO	0.315**	2.709	0.007	0.248**	2.905	0.004	0.067	0.458	0.647
H14	TR → LO	0.204*	2.087	0.037	0.091	0.820	0.412	0.113	0.768	0.443
H15	COM → LO	0.318***	3.919	0.000	0.530***	7.750	0.000	-0.212*	1.991	0.047

(Notes) *Significant at $p < .05$; **Significant at $p < .01$; ***Significant at $p < .001$.

Internet banking services success, satisfaction, trust, and commitment are key mediators that drive consumers' decisions to continuously use Internet banking services. This study confirmed that website quality and service quality are crucial factors influencing customer satisfaction, which leads to customer loyalty using Internet banking services in Indonesia and South Korea. Website quality compliance had a strong influence on the formation of user satisfaction in Internet banking, which then strongly influences consumer trust and commitment towards related banking services. This process eventually leads to loyalty. The results also illustrate the importance of user satisfaction and privacy concerns in adopting and using Internet banking. Satisfaction either directly or indirectly affects users' perceptions to be loyal to a technology-based service (Flavian et al., 2006), whereas privacy concerns influence trust building and is a determinant of both e-commerce success (Kim, 2008) and Internet banking (Casalo et al., 2007).

Both website quality and service quality had no significant relationship with consumer trust to use Internet banking services. These results support previous research that examined the relationship between the perceived qualities of a vendor's electronic channel/website and consumer trust (Kim et al., 2004). Website quality is an important factor that influences consumers' first-time purchase behavior (McKnight et al., 2002b; Kim et al., 2004), but website quality is a broad concept (Zhou et al., 2009) and its effect decreases as consumers' gain experience (Kim et al., 2004). Experienced consumers are more accustomed to using a banking website, so website quality diminishes in importance. Subsequent interactions with a banking website reduces the importance website quality has in influencing trust in Internet banking services (Zhou et al., 2009). System quality unexpectedly did not have a significant impact on trust and had a weak relationship between service quality and trust. These findings are consistent with previous studies which empirically found

that quality attributes such as systems quality, information quality, and service quality do not always significantly influence trust (Kim et al., 2004; Zhou et al., 2009).

Security and privacy concerns are key factors for both customer satisfaction and trust in Internet banking. This study revealed the importance that quality attributes have for Internet banking services and for consumers' considerations towards security and privacy concerns in forming satisfaction, trust, and commitment to use Internet banking. Perceived security was not a determinant of one's commitment to use Internet banking in this study. Previous studies supported the relationship between perceived security and one's commitment to use online services (Mukherjee & Nath, 2003; Casalo et al., 2007). Perceived security on commitment might have been represented by other exogenous factors (Vatanasombut et al., 2008). Commitment is a complex concept and primarily influenced by the affective commitment underlying emotional feelings and the proximity between users and banks (Casalo et al., 2007). These findings suggest the need to further examine the model with additional unexplored variables. The results also demonstrated cultural diversity between Indonesia and South Korea. The cultural dimension may present interesting insights for future investigations of IS implementation success. This study found support to conceptualize security and privacy as separate variables that affect customers' satisfaction and trust to use Internet banking in multiple contexts.

Practical Implications

The study findings offer multiple important practical insights pertaining to cross-national differences despite not explicitly investigating cultural differences. Indonesia and South Korea are both characterized as having collectivist cultures, but do exhibit socio-cultural and technology infrastructure differences. Such differences may influence how a consumer

in either country perceives satisfaction, trust, commitment, and loyalty relative to technology system use. Service quality and security are likely to be more important for Indonesians as is the role of trust. Indonesians are characterized by an acceptance of inequalities and hierarchical order as well as openness and inclusiveness. South Koreans generally are more technology literate and should perceive website system quality and privacy concerns to be of greater importance. South Koreans generally have a stronger disposition towards long-term results and perseverance which likely influences loyalty and commitment.

The results revealed no significance between quality attributes and trust, but website, system, information, and service quality does shape customers' trust and drives customer satisfaction with Internet banking in Indonesia and South Korea. The quality attributes are essential components for successful Internet banking. Banks should be cognizant of the influence that these key factors have towards attaining and retaining consumer satisfaction, trust, commitment, and loyalty towards Internet banking. Banks should continuously maintain website and service quality, which may be achieved through a simple, easy to use interface while remaining user-friendly, reliable, accurate, relevant, timely, and responsive (Corbitt et al., 2003; Casalo et al., 2007). Banks should maintain an intuitive and easy to follow interface that enhances their corporate image and familiarizes customers with their service offerings to encourage usage (Chan & Lu, 2004; Flavian et al., 2005). Banking firms should continue to maintain and support website functionalities that enable financial transactions, such as security, reliability, and existing capabilities while providing satisfactory service to retain their customers (Zhou et al., 2009).

Knowledge of the factors which consistently influence consumer satisfaction and extend usage provides banks with insights to satisfy consumers' future needs for Internet-based financial services (Pikkarainen et al., 2004).

The influence of satisfaction, trust, and commitment are expected to increase in importance as banks are able to establish close relationships with customers (Garbarino & Johnson, 1999). The trust-commitment relationship is related to technological innovation, system performance, and a wide variety of services. This relationship may be enhanced by empowering salespeople to increase customer trust in services (Tomiuk & Pinsonneault, 2001) through more frequent communication (Doney & Cannon, 1997) and appropriate promotion (Chan and Lu, 2004). Banks must maintain products and services, manage close relationships between banks and customers, and remain innovative to retain customer loyalty (Shah & Siddiqui, 2006).

Banks in Indonesia must appreciate the importance of reliable, timely, responsive, and secure Internet banking services (Corbitt et al., 2003; Casalo et al., 2007). As a developing country, investments in technology and the widespread diffusion of broadband Internet service will have a significant impact for online banking services. Indonesian firms should make investments to establish secure systems and enhance existing financial services. These activities will improve consumers' satisfaction, trust, and commitment to continuously use Internet banking services. Banking firms in South Korea in contrast should pay particular attention to the website quality of Internet banking services. South Korean banks should also initiate strong privacy management and ensure that their Internet banking services are well-controlled, satisfactory, and trustworthy. These are each factors found to influence Internet banking loyalty in a more developed country.

Internet banking service attributes have specific features like intangibility and complexity which introduce high levels of uncertainty and risk. Banking firms must employ effective marketing campaigns to increase consumers' trust and develop a trustworthy relationship. These actions may facilitate financial transactions on the Internet which can improve consumer loyalty (Aldas-Manzano et al., 2011; Mukerjee & Nath, 2003).

Comparisons Between Indonesia and South Korea

This study revealed differences across cultures irrespective of income, level of development, and geographical location. Indonesians considered service quality and perceived security as important factors for user satisfaction. Website quality and perceived privacy were important factors for Korean's user satisfaction. As depicted by Table 4, security concerns appear more important in Indonesia while system quality considerations are more important in South Korea. Many Korean users process financial transactions using Internet banking. Koreans consider system quality as an important factor in reducing time and cost but also to enhance the convenience of online transactions. The growth of Internet banking use in Indonesia has emerged along with several high-profile security concerns. Indonesians exhibit negative perceptions towards the level of security needed to protect their transactions.

Indonesian respondents indicated that customer service in banks rarely provided satisfactory solutions to issues with online banking transactions, particularly with credit card payments. Indonesian customers also identified security as the most critical factor affecting their satisfaction with Internet banking. Bank customers still perceive that their financial transactions through the Internet are not secure, even when banks utilize strong security measures like Secure Sockets Layer (SSL) and security tokens. Multiple phishing attacks have affected Internet banking websites in Indonesia in the past, which appears to have had a strong influence on the perceptions of Indonesians.

Privacy violations are a prominent concern for South Korean Internet banking users. The privacy issue in South Korea is not related to technology security, but from the improper management of a user's personal information. Korean banking companies regularly collaborate with business partners (e.g., credit card and insurance companies). This relationship results

in the sharing of user personal information for co-marketing purposes and often leads to excessive and unwanted solicitations. Website interface quality is compromised in the Korean banking system through the mandated use of Microsoft products (e.g., Internet explorer and Windows). This practice typically requires the usage of multiple "Active X" plug-ins that cause compatibility, security, and usability issues. Usability issues persist in South Korea despite the relatively high level of quality and prominent security of Internet banking systems.

Internet banking loyalty was influenced more by commitment in South Korea, while trust and user satisfaction was more significant for loyalty formation in Indonesia. Previous research found consistent results that committed consumers tend to be loyal and repeatedly use and consume services (e.g. Fullerton, 2003; Morgant & Hunt, 1994; Garbarino & Johnson, 1999). The Korean banking environment influences Internet banking loyalty. Koreans typically do not switch banks as decisions are influenced more by commitment rather than satisfaction and trust. Most Korean banking companies provide similar system quality and service. The switching costs incurred when a user changes banks outweigh the potential benefits, which instill loyalty among Korean Internet banking users.

Service quality and perceived security are more salient factors in Indonesia that shape customers' satisfaction and trust, which ultimately influences loyalty. Indonesian customers expect better service from banks and more secure transaction systems. Customers did not have faith in banking services and believed that banks did not place a high value on customer demands. The experiences in Indonesia, a developing country, offer a stark contrast to the challenges in South Korea, a developed country.

CONCLUSION

This study extended the IS success model utilizing aspects of commitment-trust theory to explain how quality attributes in Internet

banking affects customers' satisfaction and trust. This study also extended the commitment-trust construct by modeling perceived security and privacy as separate constructs. Perceived security and privacy influenced customers' satisfaction, trust, and commitment which subsequently influenced loyalty towards Internet banking usage. Satisfaction, trust, and commitment mediate consumers' loyalty in using Internet banking services. This study lends credibility for employing the IS success model to examine organizational performance among different countries.

The IS success model is widely used to evaluate e-commerce systems. The degree of system implementation success is challenging to measure due to the dimensionality of constructs used to assess system acceptance and usage (Wang, 2008). Satisfaction, trust, and loyalty are important in determining e-commerce success. A better proxy to account for organizational performance may be needed due to the complexity of customer satisfaction (Molla & Licker, 2001). Commitment and loyalty should be further explored as these constructs are still maturing given the nature of each construct, complexity, and dimensionality (Fullerton, 2003; Tomiuk & Pinsonneault, 2001). This study does elicit important results that would be aided from further investigation. This study revealed a significant and more representative influence of Internet banking usage among different countries through a cross-country study of consumer behaviors.

Limitations and Future Research Directions

This study conducted a large-scale study utilizing a questionnaire to examine the research model and hypotheses. The findings provide significant insights for financial industries, particularly for the banking sectors in Indonesia and South Korea. This study empirically validated the proposed research model, which was grounded in IS theory, to examine interesting cross-country comparisons between a developed and developing country. Technol-

ogy adoption does not guarantee widespread acceptance and usage. Internet banking success depends on how a technology is perceived and includes external factors like communications infrastructure support, the Internet penetration within a country, and national socio-economic conditions (Brown et al., 2004).

Variations in the composition of the groups sampled from Indonesia and South Korea exist but are not believed to have significantly influenced the study results. The differences are not believed to be significant because the focus of this study was on perceptions of Internet banking usage. Each participant in both countries was identified as being engaged in frequent Internet banking service transactions and was appropriate for this study. Challenges do exist in collecting sufficient, representative sampling data from populations in different countries. Future researchers must be cognizant of the challenges inherent in cross-country data collection to ensure that an appropriate sampling is collected.

This study revealed useful insights for evaluating current and future Internet banking usage comparing Internet banking usage between Indonesia and South Korea. Additional insights are likely to be gained from cross-cultural validations that further explore differences in customers' perceptions. This may yield interesting outcomes that expand upon the results of this study. The countries examined in this study may have unique cultural characteristics, but it is reasonable to assume that individuals from Indonesia and South Korea exhibit some cultural similarities (Hofstede et al, 2010). Countries that have more stark cultural differences may provide additional insights in future work. Perceived benefits, perceived value, and culture are each natural extensions to the study research model (Zhou et al., 2009).

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APPENDIX A

Table 5. Survey items

Construct	Measurement Items	References
Website Quality (WQ)	<ol style="list-style-type: none"> 1. Internet banking website is easy to navigate through 2. Internet banking website is always up and available 3. The content of Internet banking websites is useful 4. On this site, it was easy to find the information I wanted 	Aladwani & Palvia (2002); McKnight et al., (2002)
Service Quality (SQ)	<ol style="list-style-type: none"> 1. The Internet banking system service is always willing to help you 2. The Internet banking system service gives you individual attention 3. The Internet banking system service is responsive to my needs 4. The Internet banking system service promptly addresses any concerns that I have 	Wang (2008); Kim et al., (2004)
Perceived Security (SEC)	<ol style="list-style-type: none"> 1. The company implements security measures to protect Internet banking users 2. Internet banking website has the ability to verify users' identity for security purposes 3. I think this website shows great concern for the security of any transactions 4. I feel secure about the electronic payment system of Internet banking 	Cheung & Lee (2006); Casalo et al., (2007); Koufaris & Hampton-Sosa (2004)
Perceived Privacy (PR)	<ol style="list-style-type: none"> 1. I will not lose control of my personal data 2. I will feel safe when I send personal information in Internet banking 3. Internet banking company will not divulge consumers' personal data to other parties 4. Internet banking company concerns about consumers' privacy 	Casalo et al., (2007); Cheung & Lee (2006)
User Satisfaction (SAT)	<ol style="list-style-type: none"> 1. I am satisfied with my decision to use this banking website 2. I am generally satisfied with the way this banking website has managed transactions in the past 3. I think that I made the correct decisions to use this banking website 4. In general, I am satisfied with the service I have received from this banking website 	Aldas-Manzano et al., (2011); Flavian et al., (2006)
Trust (TR)	<ol style="list-style-type: none"> 1. This Internet banking site is trustworthy 2. This Internet banking site keeps its promises and commitments 3. I trust this Internet banking site 4. I trust this company to carry out my transactions through the Internet 	Suh & Han (2002); Flavian et al., (2005)
Commitment (COM)	<ol style="list-style-type: none"> 1. I am proud to belong to this Internet banking 2. I feel emotionally attached to this banking website 3. This Internet banking website has a great deal of personal meaning for me 4. I am very committed to the relationship with the Internet banking services 	Garbarino & Johnson (1999); Fullerton (2003); Morgan & Hunt (1994)
Loyalty (LO)	<ol style="list-style-type: none"> 1. I would recommend this banking website to someone who seeks my advice 2. I would encourage my friends and others to transact through this banking website 3. I think I would say positive things about this banking website to other people 	Aldas-Manzano et al., (2011)

APPENDIX B*Table 6. Confirmatory factor analysis results*

Items	Total (n=307)				Indonesia (n=159)				Korea(n=148)			
	Loading	α	CR	AVE	Loading	α	CR	AVE	Loading	α	CR	AVE
WQ1	0.81	0.81	0.88	0.64	0.76	0.81	0.87	0.63	0.83	0.80	0.87	0.62
WQ2	0.72				0.73				0.79			
WQ3	0.85				0.86				0.78			
WQ4	0.83				0.83				0.75			
SQ1	0.82	0.83	0.88	0.66	0.78	0.75	0.84	0.57	0.72	0.77	0.85	0.59
SQ2	0.81				0.69				0.77			
SQ3	0.83				0.81				0.81			
SQ4	0.79				0.74				0.76			
SEC1	0.82	0.81	0.87	0.63	0.78	0.83	0.89	0.66	0.82	0.72	0.82	0.54
SEC2	0.78				0.81				0.69			
SEC3	0.79				0.84				0.68			
SEC4	0.79				0.82				0.75			
PR1	0.83	0.86	0.91	0.71	0.79	0.82	0.88	0.65	0.83	0.85	0.90	0.69
PR2	0.82				0.83				0.75			
PR3	0.84				0.79				0.86			
PR4	0.87				0.83				0.89			
SAT1	0.90	0.91	0.94	0.78	0.87	0.87	0.91	0.73	0.90	0.92	0.94	0.80
SAT2	0.81				0.72				0.88			
SAT3	0.92				0.90				0.92			
SAT4	0.90				0.90				0.88			
TR1	0.90	0.91	0.94	0.79	0.87	0.86	0.90	0.70	0.90	0.92	0.95	0.82
TR2	0.86				0.77				0.91			
TR3	0.91				0.88				0.91			
TR4	0.88				0.84				0.89			
COM1	0.85	0.87	0.91	0.72	0.74	0.84	0.89	0.68	0.86	0.85	0.90	0.69
COM2	0.89				0.81				0.89			
COM3	0.77				0.86				0.77			
COM4	0.87				0.87				0.80			
LO1	0.92	0.91	0.94	0.85	0.92	0.90	0.94	0.84	0.90	0.89	0.93	0.82
LO2	0.94				0.94				0.93			
LO3	0.90				0.89				0.88			

APPENDIX C

Table 7. Construct correlations

Construct		WQ	SQ	SEC	PR	SAT	TR	COM	LO
Total	Website Quality	0.80							
	Service Quality	0.69	0.81						
	Perceived Security	0.43	0.53	0.80					
	Perceived Privacy	0.39	0.50	0.60	0.84				
	User Satisfaction	0.61	0.59	0.57	0.56	0.88			
	Trust	0.51	0.52	0.65	0.70	0.77	0.89		
	Commitment	0.52	0.66	0.50	0.59	0.64	0.64	0.85	
	Loyalty	0.48	0.53	0.51	0.58	0.69	0.66	0.74	0.92
Indonesia	Website Quality	0.80							
	Service Quality	0.62	0.76						
	Perceived Security	0.39	0.50	0.82					
	Perceived Privacy	0.35	0.51	0.63	0.81				
	User Satisfaction	0.48	0.59	0.64	0.49	0.85			
	Trust	0.37	0.52	0.66	0.67	0.70	0.84		
	Commitment	0.35	0.52	0.42	0.49	0.57	0.57	0.82	
	Loyalty	0.37	0.44	0.54	0.53	0.64	0.60	0.61	0.92
South Korea	Website Quality	0.79							
	Service Quality	0.59	0.77						
	Perceived Security	0.26	0.34	0.74					
	Perceived Privacy	0.21	0.24	0.48	0.83				
	User Satisfaction	0.60	0.46	0.40	0.51	0.90			
	Trust	0.49	0.38	0.60	0.66	0.77	0.90		
	Commitment	0.45	0.54	0.34	0.50	0.58	0.61	0.83	
	Loyalty	0.39	0.36	0.31	0.47	0.63	0.61	0.73	0.90

APPENDIX D

Table 8. Cross loading table

Items	WQ		SQ		SEC		PR		SAT		TR		COM		LO	
	ID	KR	ID	KR	ID	KR	ID	KR	ID	KR	ID	KR	ID	KR	ID	KR
WQ1	0.76	0.83	0.50	0.47	0.29	0.27	0.20	0.16	0.32	0.54	0.21	0.43	0.17	0.32	0.18	0.25
WQ2	0.73	0.79	0.41	0.36	0.24	0.17	0.20	0.07	0.30	0.49	0.25	0.36	0.16	0.34	0.22	0.39
WQ3	0.86	0.78	0.51	0.50	0.33	0.19	0.40	0.14	0.44	0.42	0.34	0.33	0.36	0.35	0.34	0.33
WQ4	0.83	0.75	0.55	0.53	0.37	0.18	0.28	0.30	0.43	0.42	0.35	0.40	0.36	0.41	0.39	0.28
SQ1	0.53	0.48	0.78	0.72	0.46	0.20	0.43	0.21	0.54	0.32	0.47	0.26	0.33	0.37	0.36	0.25
SQ2	0.39	0.52	0.69	0.77	0.34	0.23	0.33	0.19	0.35	0.34	0.32	0.24	0.43	0.42	0.28	0.27
SQ3	0.56	0.42	0.81	0.81	0.36	0.28	0.42	0.12	0.39	0.29	0.37	0.25	0.42	0.42	0.36	0.23
SQ4	0.40	0.40	0.74	0.76	0.31	0.31	0.34	0.21	0.47	0.42	0.38	0.39	0.43	0.44	0.32	0.33
SEC1	0.23	0.18	0.38	0.37	0.78	0.82	0.43	0.32	0.44	0.35	0.46	0.49	0.34	0.28	0.45	0.21
SEC2	0.31	0.21	0.35	0.23	0.81	0.69	0.50	0.20	0.50	0.19	0.51	0.35	0.30	0.25	0.32	0.17
SEC3	0.24	0.15	0.36	0.19	0.84	0.68	0.53	0.14	0.56	0.25	0.57	0.29	0.37	0.15	0.53	0.20
SEC4	0.48	0.22	0.52	0.20	0.82	0.75	0.58	0.61	0.58	0.36	0.59	0.55	0.38	0.30	0.47	0.32
PR1	0.29	0.21	0.44	0.19	0.46	0.59	0.79	0.83	0.36	0.42	0.50	0.60	0.38	0.41	0.33	0.36
PR2	0.29	0.10	0.50	0.23	0.65	0.44	0.83	0.75	0.50	0.29	0.65	0.46	0.43	0.36	0.48	0.30
PR3	0.32	0.17	0.32	0.24	0.43	0.24	0.79	0.86	0.26	0.45	0.45	0.51	0.39	0.43	0.39	0.42
PR4	0.24	0.21	0.36	0.17	0.45	0.34	0.83	0.89	0.41	0.50	0.54	0.62	0.37	0.46	0.48	0.47
SAT1	0.43	0.63	0.53	0.47	0.56	0.32	0.44	0.50	0.87	0.90	0.67	0.69	0.51	0.56	0.59	0.59
SAT2	0.23	0.46	0.36	0.36	0.48	0.36	0.36	0.49	0.72	0.88	0.41	0.68	0.43	0.51	0.43	0.57
SAT3	0.49	0.49	0.53	0.42	0.54	0.38	0.36	0.44	0.90	0.92	0.58	0.70	0.52	0.55	0.56	0.57
SAT4	0.45	0.54	0.56	0.37	0.60	0.39	0.48	0.39	0.90	0.88	0.68	0.69	0.48	0.46	0.58	0.52
TR1	0.40	0.46	0.48	0.37	0.54	0.56	0.51	0.65	0.62	0.69	0.87	0.90	0.50	0.53	0.56	0.53
TR2	0.24	0.42	0.38	0.39	0.43	0.57	0.63	0.58	0.41	0.71	0.77	0.91	0.48	0.59	0.44	0.56
TR3	0.32	0.41	0.45	0.34	0.68	0.50	0.58	0.60	0.68	0.71	0.88	0.91	0.47	0.53	0.53	0.55
TR4	0.27	0.47	0.41	0.29	0.54	0.52	0.56	0.56	0.61	0.68	0.84	0.89	0.45	0.56	0.49	0.55
COM1	0.42	0.35	0.49	0.44	0.36	0.24	0.42	0.43	0.57	0.51	0.53	0.52	0.74	0.86	0.52	0.59
COM2	0.16	0.34	0.35	0.46	0.30	0.32	0.41	0.50	0.36	0.47	0.43	0.56	0.81	0.89	0.44	0.64
COM3	0.24	0.46	0.43	0.49	0.35	0.31	0.41	0.38	0.41	0.55	0.42	0.49	0.86	0.77	0.53	0.58
COM4	0.30	0.34	0.43	0.41	0.37	0.26	0.36	0.35	0.51	0.40	0.47	0.45	0.87	0.80	0.51	0.61
LO1	0.37	0.33	0.46	0.35	0.49	0.25	0.45	0.42	0.62	0.52	0.52	0.50	0.63	0.72	0.92	0.90
LO2	0.30	0.36	0.37	0.29	0.47	0.29	0.47	0.37	0.54	0.55	0.56	0.55	0.56	0.63	0.94	0.93
LO3	0.34	0.39	0.37	0.33	0.54	0.30	0.53	0.49	0.59	0.64	0.59	0.59	0.49	0.63	0.89	0.88

(Note) ID: Indonesia; KR: South Korea