

# Short Messaging Services (SMS) and Banking

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**Geoffrey Harvey Tanakinjal (Early Stage)**  
**(Department of Marketing)**

## ***Introduction***

As a direct marketing tool, electronic Short Message Services (SMS) is likely to surpass internet-based advertising before the end of 2006. Younger consumers higher in social class are the most willing to accept SMS direct advertising text and respond favourably to SMS-TV integrated marketing communications (Trappey III & Woodside, 2005). On the same note, online banking is starting to gain its momentum via the internet. Nonetheless, effort has been made to ensure online banking flexibility walks hand in hand with the convenience factor, therefore introducing banking via mobile phone (with GPRS interface). Understanding how companies should interact with their customers and deliver services in electronic environments is of decisive importance (Parasuraman and Zinkhan 2002). Nevertheless, despite these advantages, the consumer uses mobile devices mainly for simple services, such as voice services and text messaging. Based on this factor, it is important to understand the driving forces of consumers' intentions to use mobile services and to adapt the services to fulfil consumers' motives for using them (Nysveen, Pedersen, & Thorbjornsen. 2005).

### *Objective of the study*

The general purpose of this study is to explore Short Messaging Service (SMS) potential as a vehicle of banking services by understanding consumers' attitude, motivation and behavior towards wireless application channel.

### *Significance of the study*

The contributions of the study may include:

- a. For the service providers or network companies, the study will be able to contribute additional information regarding consumer preference toward SMS messages on mobile banking; and
- b. For the marketers, especially those involved in the banking industry, this research will help understand the approach of wireless application technology.

## ***Literature review***

### *Short Messaging Service (SMS)*

Text messaging was first developed in 1991 for GSM digital mobile phones, almost by accident (Baron, Patterson, and Harris, 2006). SMS was the triumph of the consumer - every generation needs a technology that it can adopt as its own to communicate with - and the text generation took up SMS. The fact that the entry barriers to learning the service were so high were an advantage because it meant that parents and teachers and other adult authority figures were unlikely, unable and

unwilling to use the service. SMS is one of the few services in consumer history that has grown very fast without corresponding decreases in pricing ([www.in.mobile.yahoo.com](http://www.in.mobile.yahoo.com)). Although SMS suffers a limitation from the 160 character text-only format, innovations such as the ability to send barcodes improve opportunities for coupons, point-of-sale redemption, and ticket purchases (Trappey III & Woodside, 2005) have opened opportunities for marketing via mobile phone.

### *Online Banking*

According to Jim Bruene (2006) online banking is the best thing to happen to personal finance management since the invention of the paper statement. In many countries, half or more of online users routinely visit their bank to check account activities, verify deposits, and just see if everything is in order (Bruene, 2006). According to a report by Mintel International Group Ltd (June 1, 2006), the forces driving the growth of the Internet-increased broadband access, new innovations that provide a secure environment, and the coming-of-age of more tech-savvy people-will combine to propel online banking as well. Mintel expects that online banking will continue to grow and become more profitable for financial institutions, particularly as the Internet matures and subsequent generations become more technologically literate. Factors impacting online banking include the trend within the industry and the socio-economic forces behind changing demographics ([www.marketresearch.com](http://www.marketresearch.com)).

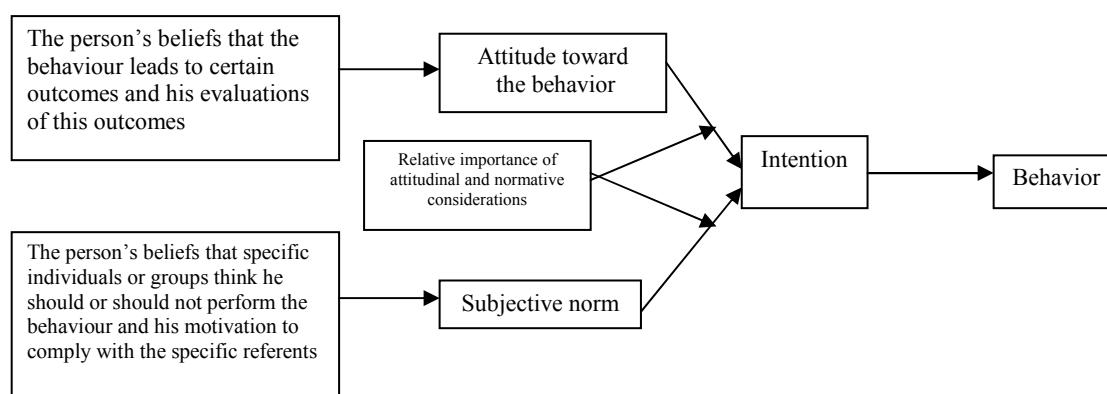
### **Related Studies** (*Theories and models that inform the primary research*)

Table 1.0 briefly explained some of the related studies made by various researchers. Davis (1989) uses Technology Acceptance Model (TAM) measure perceived usefulness, perceived ease of use and user acceptance of information technology. Davis et al (1989) compared Theory of Reasoned (TRA) and TAM in terms of user acceptance of computer technology. Both of the studies were conducted in an organizational context. Nevertheless, Yan et al. (2006) used TAM to measure user acceptance of short message service (SMS) in Hong Kong and China and recommended that in order to formulate a successful business strategy for a specific service in a specific market, a mobile operator has to conduct a comprehensive study and identify the key external factors that will affect the perceived usefulness, perceived ease of use, and subjective norms towards acceptance of that particular service in a specific market. Baron et al. (2006) indicated the need of further research into the importance of text messaging as a social and cultural practice in everyday lives, with emphases on addictive behaviours, learning and the development of repertoires of communication skills by increasingly sophisticated consumers, and feelings of exclusion by non-participants through qualitative research approach that reflect upon consumer text message (short message service – SMS) behaviour. Nysveen et al. (2005) combine various theoretical fields (Information system research, Uses and gratification research; and Domestication research) and indicated that marketing managers should be aware of motivational variables, such as perceived expressiveness, perceived enjoyment, perceived usefulness, and perceived ease of use, in addition to consumers' attitude toward use, normative pressure, and behavioural control for future research.

**Table 1: Theories and models that inform the primary research**

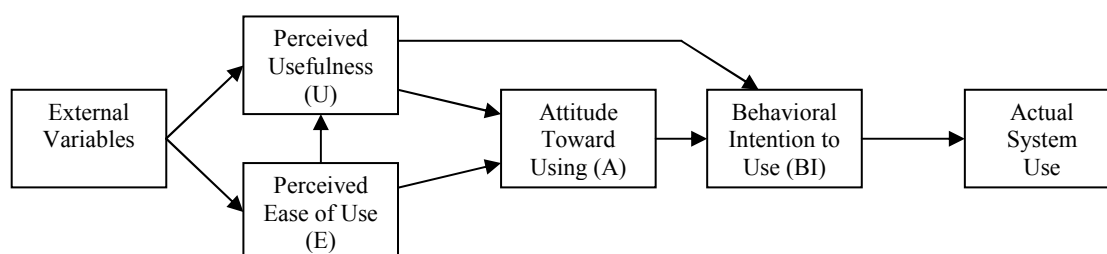
Authors	Topic	Models	Findings	Areas for future research	Comments
Davis, F.D. (1989)	Perceived Usefulness, Perceived Ease of Use and User Acceptance of Information Technology	Technology Acceptance Model (TAM)	Usefulness was significantly more strongly linked than was ease of use (pp. 333)	Need to address how other variables relate to usefulness, ease of use and acceptance. (for example intrinsic motivation)	Useful in explaining behavioural intentions
Davis, F.D., Bagozzi, R.P., and Warshaw, P.R. (1989)	User Acceptance of Computer Technology: A Comparison of Two Theoretical Models	Theory of Reasoned Action (TRA)  Technology Acceptance Model (TAM)	Both TRA and TAM postulated that Behavioral Intention (BI) is the major determinant of usage behaviour (pp. 997)	Research is needed to test the generality of the observed usefulness-ease of use trade off, and to assess the impact of external interventions on these internal behaviour determinants	Research was conducted in an organizational context
Davis, R. & Yung, D. (2005)	Understanding the Interactivity Between Television and Mobile Commerce	Technical Opinion	LOOP, which is a marketing campaign approach marketers use to build an effective process of interactivity with consumers (pp.103)	LOOP uses mobile-base data transfer through SMS text or MMS picture and sound to allow user to send messages to other individual (via mobile phone) or a machine (via the Internet) (pp.103)	Meuter et.al. (2000), technology-based interaction is a key criterion for the interaction between customers and firms and for companies' long term success
Nysveen, H., Pedersen, P.E., & Thorbjørnsen, H. (2005)	Intentions to Use Mobile Services: Antecedents and Cross-Service Comparisons	Combination of various theoretical field: Information system research, Uses and gratification research; and Domestication research	Perceived expressiveness and perceived enjoyment emphasize the importance of taking into consideration relatively untraditional antecedent of technology usage.	Marketing managers should be aware of motivational variables, such as perceived expressiveness, perceived enjoyment, perceived usefulness, and perceived ease of use, in addition to consumers' attitude toward use, normative pressure, and behavioural control	Knowledge transfer from C2C to B2B needed
Yan, X., Gong, M., & Thong, J.Y.L. (2006)	Two tales of one service: user acceptance of short message service (SMS) in Hong Kong and China	Technology Acceptance Model (TAM)	Research delineating the various stimuli to consider for successful technology acceptance in a global setting, which can account for differential impacts across regions (pp.16).	In order to formulate a successful business strategy for a specific service in a specific market, a mobile operator has to conduct a comprehensive study and identify the key external factors that will affect the perceived usefulness, perceived ease of use, and subjective norms towards acceptance of that particular service in a specific market.	External factors needs to be specified for successful business strategy
Baron, S., Patterson, A., & Harris, K. (2006)	Beyond technology acceptance: understanding consumer practice	Qualitative research: Consumer diary writing and personal interview with customers	The existence of counter-intuitive behaviours, technology paradoxes and intense social and emotional elements in actual text message usage all point to the need for a review of the definition of the key TAM constructs.	Further research into the importance of text messaging as a social and cultural practice in everyday lives, with emphases on addictive behaviours, learning and the development of repertoires of communication skills by increasingly sophisticated consumers, and feelings of exclusion by non-participants.	A Qualitative research approach that reflect upon consumer text message (short message service – SMS) behaviour.

## Theories and Models (Related to the study)



**Figure 1.0 Factors determining a person's behavior (Theory of Reasoned Action)**

Ajzen, I. & Fishbein, M. (1980)



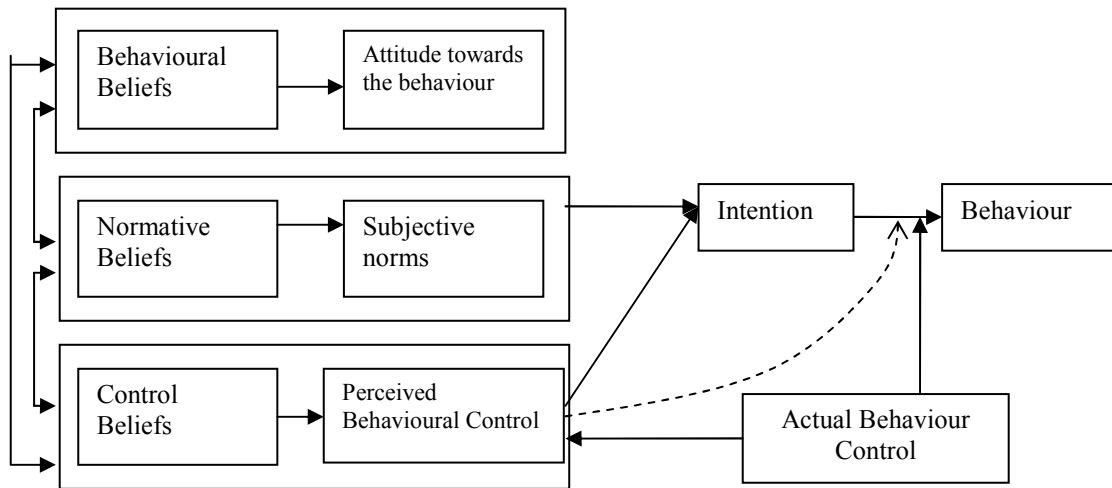
**Figure 2.0 Technology Acceptance Model**

Davis, F.D., Bagozzi, R.P., and Warshaw, P.R. (1989)

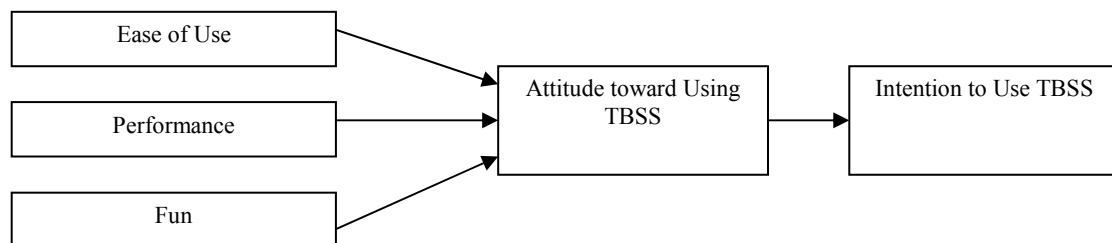
According to the theory of reasoned action (TRA) (Figure 1.0), a person's intention is a function of two basic determinants, one personal in nature and the other reflecting social influence. (Ajzen & Fishbein, 1980).

As an adaptation to the TRA, the Technology Acceptance Model (TAM) was introduced by Davis (1986) for modelling user acceptance of information systems. A key purpose of the TAM, therefore, is to provide a basis for tracing the impact of external factors on internal beliefs, attitudes and intentions (Davis et al. 1989) (refer to Figure 2.0).

It is worth noting, though, that the "subjective norm" variable was not included as a key influence in the TAM. In the Theory of Planned Behaviour (TPB), (Figure 3.0) behavior is a function of compatible intentions and perceptions of behavioural control. Conceptually, perceived behavioural control is expected to moderate the effect of intention on behavior, such that a favourable intention produces the behavior only when perceived behavioural control is strong (Ajzen, 2006).

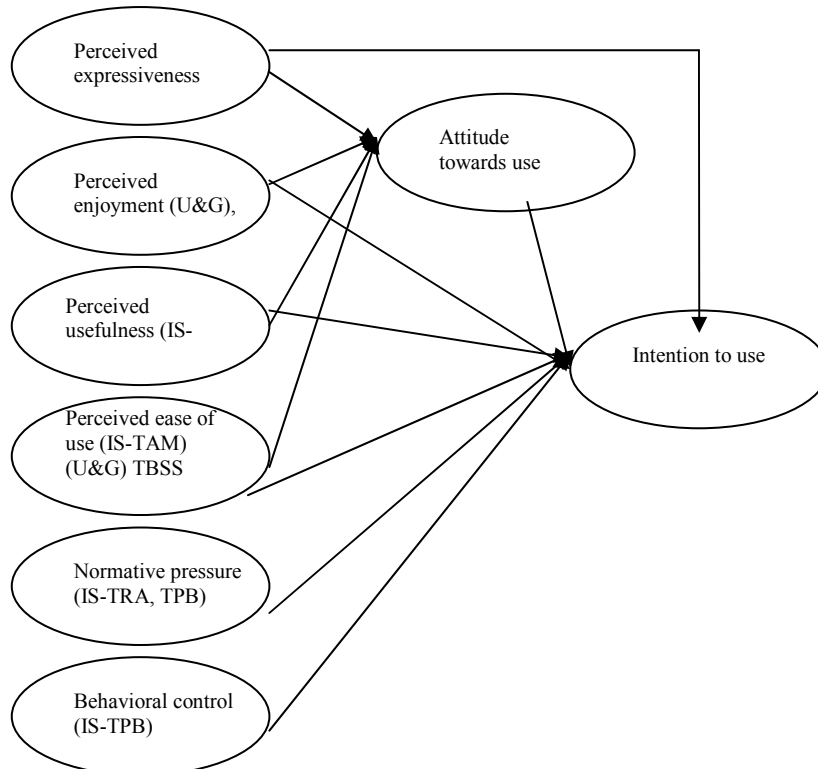


**Figure 3.0 Theory of Planned Behaviour (TPB)**  
Ajzen, I. (2006)



**Figure 4.0 Attitudinal Model of Technology Based Self Service (TBSS)**  
Dabholkar, P.A. (1994)

According to Dabholkar (2002) the third dimension in the TAM model, “usefulness,” while appropriate for products such as computer software, is not relevant for technology-based self-service (refer to Figure 4.0).



**Figure 5.0 Intentions to Use Mobile Services**  
Nysveen, H., Pedersen, P.E., & Thorbjornsen, H. (2005)

Figure 5.0 illustrate Nysveen et al. (2005) which combine various theoretical fields (Information system research-IS, Uses and gratification research-U&G; and Domestication research-D) in determining influences for attitude towards the use of mobile services and intention to use mobile services (in this study mobile banking).

## ***Research Gaps***

Studies concerning consumers' intentions to use mobile services have been conducted on the basis of Davis's (1989) technology acceptance model (TAM) but Nysveen et al. (2005) pointed out 4 extension of TAM that may be relevant to explain intention to use mobile services:

- TAM may be too parsimonious and it should be supplemented and extended by means of concepts such as subjective norm and image (Venkatesh and Davis 2000)
- TAM is most often used in work-related contexts that do not imply any cost to the user (Nysveen et al. 2005). Thus consumers' use of mobile services depends on their available resources (perceived control), as predicted in the theory of planned behaviour (TPB) (Ajzen 1991);
- TAM is often used in an organizational context rather than in everyday life context for mobile services; and
- TAM's ability to explain various forms of technology is limited, and explained variance is typically approximately 40 percent (Venkatesh and Davis 2000)

The present proposal also suggests that the "performance" dimension encompassing the reliability and accuracy of the technology based self service, as perceived by consumer (Dobholkar 1994), should be included in this study.

## ***Discussion***

The present study aims to focus on the application of SMS as a medium of marketing communication for services offered by banks and conduct banking transaction via SMS. Apart from SMS, mobile phones characteristics ([www.sonyericsson.com](http://www.sonyericsson.com)) have developed tremendously with the introduction of better imaging (4x digital zoom, camera 1.3 megapixel, enhance messaging system (EMS), macromedia flash light, video call) better messaging (email, MMS, predictive text input, SMS long) better entertainment (content online, FM radio, Java, media player, music tones), better connectivity (Bluetooth™ technology, GPRS, 3G, synchronization PC & Apple®, modem, WAP1.2.1, WAP 2.0 XHTML) and better organizer (alarm clock, business card exchange, calculator, calendar, conference calls, contacts, file manager, phone book, speakerphone, stopwatch, tasks, timer, and notes). These technologies are available for marketers to use but are people ready to adapt to the technology advancement? What are the barriers for consumer to adopt wireless application technology? What should formal business system be? What action could be taken to provide faster response to banking via SMS?

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