Gender Differences in Non-Users' Attitude towards WIG-Cellphone Banking

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Abstract

Although cellphone banking has many perceived advantages over traditional modes of banking the adoption rate globally remains relatively low. This study investigates the moderating effect of gender on the formation of attitude towards WIG-cellphone banking. A non-probability sample of 465 non-users of cellphone banking was drawn for the study. The moderating effect of gender was investigated by means of structural equation modelling multi-group analysis. The main finding is that gender does moderate the formation of attitude towards WIG-cellphone banking. For males the influence of Usefulness is stronger on Attitude towards WIG-cellphone banking than for females, as well as the influence of Cost on Usefulness. For females the influence of Ease of use on Attitude is stronger.

Introduction

Cellphone banking is considered by some researchers to be one of the most value-adding and important mobile services (Lee *et al.*, 2003). However, reports on cellphone banking show that potential users are not adopting the electronic service, despite its availability (Gartner, 2007; Luarn and Lin, 2005). From the perspective of banks that develop cellphone banking systems, a great number of customers should use cellphone banking in order to produce a high return on their investment (Lee and Chung, 2009). Hence, identifying factors that influence non-users' adoption behaviour is of high importance for banks and of interest to academics.

Gender differences in adoption behaviour among non-users of cellphone banking have not received adequate attention, although previous technology adoption research suggests that gender is a moderating variable in technology adoption. Furthermore, previous cellphone banking adoption studies didn't take into consideration the various types of cellphone banking, for example, WAP- (wireless application protocol) cellphone banking or WIG- (wireless internet gateway) cellphone banking. To identify gender differences among non-users of cellphone banking more precisely, the study will focus on WIG-cellphone banking (more commonly known as SMS-cellphone banking). The research question is therefore as follows: Do male and female non-users of cellphone banking significantly differ in their formation of attitude towards WIG-cellphone banking? Attitude towards a technology is an important variable, as it is an antecedent of Intention in the Technology Acceptance Model of Davis (1989). The primary objective of the study is therefore to determine by means of a structural equation modelling multi-group analysis if gender moderates the formation of Attitude towards WIG-cellphone banking of non-users of the mobile service.

Gender and Technology

Gender is a key variable in moderating consumers' evaluative judgements and as a segmentation variable delivers segments that are easy to identify, easy to access, and large enough to be profitable (Kim, Lehto and Morrison, 2007). In the context of technology use, previous research has identified gender differences in the attitude towards, and perceptions and use of technology (Li and Kirkup, 2007). Gender differences can emanate from psychological differences (see Kim, Lehto and Morrison, 2007; Madigan, Goodfellow and Stone, 2007; Schumacher and Morahan-Martin, 2001; Zhang, Prybutok and Strutton, 2007) or men having earlier and more exposure to certain types of technologies (see Li and Kirkup, 2007; Yang and Lester, 2005). Therefore it is reasonable to argue that gender could moderate the relationship between Attitude towards WIG-cellphone banking and its determinants.

Determinants of Attitude towards WIG-Cellphone Banking

Usefulness and Ease of Use

The Technology Acceptance Model (TAM) theorises that the two internal beliefs, Perceived usefulness and Perceived ease of use, are instrumental in explaining Attitude towards a technology and that Perceived ease of use influences Perceived usefulness (see Davis, 1989). Drawing from the definitions of these two internal beliefs in Davis (1989), Perceived usefulness and Perceived ease of use are defined in this study as 'the degree to which a person believes that using WIG-cellphone banking will enhance his/her performance of banking activities' and 'the extent to which a person believes that using WIG-cellphone banking will be free of effort'. In accordance with the TAM theory the following hypotheses are included in the study:

H^1: Perceived usefulness will positively influence Attitude.
H^2: Perceived ease of use will positively influence Attitude.
H^3: Perceived ease of use will positively influence Perceived usefulness.

Self-efficacy and Facilitating Conditions

Determinants of Perceived ease of use are Self-efficacy and Facilitating conditions (Lee and Chung, 2009; Venkatesh and Bala, 2008). In the IS context Self-efficacy refers to an individual's perceptions of his or her ability to use technology in the accomplishment of a task (Compeau and Higgins, 1995). In the context of WIG-cellphone banking users will perceive it as easy to use when they recognise that they have high-self efficacy (i.e. strongly believe that they have the ability to accomplish specific banking tasks through WIG-cellphone banking). Gu, Lee and Suh (2009) define Facilitating conditions as the 'external environments of helping users overcome barriers and hurdles to use of IT.' They theorise that users will perceive cellphone banking as easy to use when they recognise that there are environmental conditions to help them in learning how to use cellphone banking, even though they cannot use it skilfully. This also suggests that Facilitating conditions could positively influence Self-efficacy beliefs. Lastly, Facilitating conditions and Self-efficacy are part of Control which reflects situational enablers or constraints to behaviour (Taylor and Todd, 1995). In the study of Horst, Kuttschreuter and Gutteling (2007)

empirical support was found that Behavioural control significantly influences Usefulness of an e-service. Considering the above arguments, the following hypotheses are included in the study:

H^4: Perceived self-efficacy will positively influence Perceived ease of use.
H^5: Perceived self-efficacy will positively influence Perceived usefulness.
H^6: Facilitating conditions will positively influence Perceived ease of use.
H^7: Facilitating conditions will positively influence Perceived self-efficacy.
H^8: Facilitating conditions will positively influence Perceived usefulness.

Cost

In the original TAM, Perceived cost was not considered as a variable, since it had been developed in an organisational context and the actual user was not the same person who paid for the technology. However, when translating the model to a private context, cost becomes a relevant factor in the evaluation process (Kleijnen, Wetzels and De Ruyter, 2004). It has been reported by Naidu (2006) and Whitfield (2006) that the cost of cellphone banking has a negative influence on the demand for cellphone banking. Therefore it is argued in this study that the Perceived cost of WIG-cellphone banking will negatively influence the Perceived usefulness of WIG-cellphone banking, as it diminishes the perceived customer value of the service.

H^9: Perceived cost will negatively influence Perceived usefulness.

Risk

Perceived risk is associated not only with what is acquired but also how or where it is acquired (Forsythe and Shi, 2003). Risk is an important predictor of electronic service adoption (Featherman and Pavlou, 2003). Risk relates to the degree that a consumer feels the uncertainty and adverse consequences of using an electronic service (Lu, Hsu and Hsu, 2005). If consumers perceive some risk in using an e-service it will reduce the Usefulness of the e-service (Gefen, Karahanna and Straub, 2003; Lu, Hsu and Hsu, 2005). Drawing from the definition of Perceived risk in Featherman and Pavlou (2003), Perceived risk for the purpose of this study is defined as the potential loss in the pursuit of a desired outcome in using WIG-cellphone banking.

H^{10}: Perceived risk will negatively influence Perceived usefulness.

Research Design and Method

Data Collection

The study population was low-income earners without access to the Internet at home or at the office in a major South African city. From the study population a non-probability sample of 465 respondents (198 males and 276 females) was drawn. A 40-item questionnaire was used with nine items relating to demographic and general questions and 31 items to user-acceptance behaviour. Questions relating to beliefs were measured using a five-point Likert-type scale (1=absolutely disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=absolutely agree).

Sub-scales were developed considering items used in previous studies and literature relevant to the study.

Data Analysis and Results

Multi-group Analysis

The multi-group analysis (using AMOS 17.0) was preceded by an assessment of the measurement properties of the scales. A confirmatory factor analysis (also using AMOS 17.0) based on the original measurement scales showed acceptable fit (see Table 1). After inspection of the results the measurement model was modified. The modified measurement model showed good fit, as well as the measurement models for Males and Females. The fit indices of the structural models for the two groups were also acceptable. Furthermore, the measurement models for both groups provided good evidence of construct reliability and validity.

Table 1: Model Fit Indices

Indices	Measurement Models				Structural models	
	Original	Modified	Males	Females	Males	Females
R^2	Not applicable	Not applicable	Not applicable	Not applicable	.599	.525
χ^2/df	2.217	1.925	1.821	1.625	1.902	1.733
CFI	.943	.964	.926	.959	.917	.950
TLI	.936	.958	.914	.952	.905	.943
RMSEA	.051	.045	.065	.048	.068	.052

Before the structural weights could be compared, metric equivalence was to be assessed. In this study only partial metric equivalence could be established which is adequate for comparing relations between constructs (Hair *et al.*, 2006). To determine if invariance is present in the structural weights comparison between Males and Females the structural weights and measurement weights are constrained equal across groups and compared with the constrained measurement weights model. The Chi-square difference test is significant ($\Delta\chi^2$= 27.345, Δdf= 10, ρ<.01), implying that certain structural weights are non-invariant across the groups. In Table 2 the structural weights that are non-invariant based on a Chi-square difference test are presented.

Table 2: Non-invariant Structural Weights

Hypotheses	Male		Female		Invariance analysis		
	S.W.*	ρ.	S.W.	ρ	Δdf	$\Delta\chi^2$	ρ
H^1: Usefulness → Attitude	.765	<.001	.363	<.05	1	10.044	.002
H^2: Ease of use → Attitude	.012	n.s**	.398	<.001	1	4.452	.035
H^9: Cost → Usefulness	-.316	<.001	-.082	n.s.	1	4.024	.045

*Standardised structural weights ** Non-significant

Discussion

The results of the multi-group analysis indicate that gender moderates the formation of Attitude towards WIG-cellphone banking among non-users. The results support previous research that Usefulness is more important for males. Venkatesh and Morris (2000), for example, argue that men are more highly motivated by productivity-related factors and are more directed towards individualistic tasks and goals. Therefore, factors that are related to productivity enhancement, like the Perceived usefulness of WIG-cellphone banking, are more salient for men. The influence of Cost on Usefulness is also stronger for males than for females. This significant difference can be explained by the result that the Cost of WIG-cellphone banking distracts from the Usefulness of it which is a very important consideration for males. On the other hand, the multi-group analysis indicate that Ease of use is more influential in attitude formation for females than males. Previous studies like Gefen and Straub (1997) have pointed out that women experience more anxiety in the use of technology. Therefore it is understandable that Ease of use affects females' Attitude towards WIG-cellphone banking significantly different than for males.

Managerial Implications

The attitudes of non-users of cellphone banking, especially low-income earners, towards WIG-cellphone banking can be enhanced by focusing on gender differences in beliefs towards this self-service. To create more favourable attitudes among males, marketing campaigns must underpin the Usefulness of the service in doing everyday banking. Advertisements, for example, can focus on the time-saving benefit and, most importantly, the facility to do banking 24/7. The results of the study also point out that cost of the service is a more important factor for males when evaluating the Usefulness of WIG-cellphone banking. Banks can lower bank charges related to WIG-cellphone banking for certain customer groups or even renounce certain charges if a customer uses other bank products. To create more favourable attitudes among female non-users, marketing campaigns should emphasise that WIG-cellphone banking is like sending an SMS – 'if you can SMS, you can use WIG-cellphone banking'. This will create a more positive attitude towards WIG-cellphone banking.

Limitations of the Study

The research reports findings of a study undertaken in a developing country. It may be incorrect to assume that these findings are germane to consumers in developed countries. Furthermore, the target population was very specific, namely low-income earners. The findings may therefore not apply to other income groups. Future research can address these limitations.

Conclusion

The research confirmed that gender is an important variable to consider in crafting WIG-cellphone banking marketing strategies. The adoption of WIG-cellphone banking can be enhanced by considering gender differences that affect Attitude towards WIG-cellphone banking.

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