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Understanding the Impact of Innovation Characteristics and Individual Factors on Adoption of Online Channels

Annette M Mills, Dept of Accountancy Finance & Information Systems, University of Canterbury, Private Bag 4800, Christchurch, New Zealand, T: (643) 364 2625, F: (643) 364 2727, annette.mills@canterbury.ac.nz

Lila Rao Graham, Mathematics & Computer Science Dept, University of the West Indies, Mona, Kingston 7, Jamaica, T: (876)702-4455, F: (876) 702-4455, lila.rao@uwimona.edu.jm

Gunjan Mansingh, Mathematics & Computer Science Dept, University of the West Indies, Mona, Kingston 7, Jamaica, T: (876)702-4455, F: (876) 702-4455, gunjan.mansingh@uwimona.edu.jm

INTRODUCTION

For many organizations offering online services, there are alternative modes of interaction. For example, in the case of banking the alternatives may include over-the-counter services, ATMs, telephone-banking and online banking. Given recent reports suggesting that online banking has only reached 34% penetration in the USA (Bruene 2005), understanding the factors that motivate adoption of online channels over other modes is key to the successful diffusion of such innovations.

The decision to use online channels in particular may involve selecting from a choice set; hence, individual preference towards using one mode over the alternatives is a key element of the adoption decision. Yet, little is known about the factors influencing IT adoption intentions where alternatives are available (Davis & Warshaw 1991).

As organizations continue to invest in different ways to deliver services it is important to understand the factors impacting adoption of particular service channels within multi-channel environments. This study therefore examines perceptions of innovation characteristics and individual factors as antecedents of individual intentions to adopt a particular technology, in this case, individual intentions to use Internet banking over other means to do their banking. This research therefore differs from most adoption studies since individual preference and the choice situation are explicitly considered.

THE RESEARCH MODEL.

Prior research suggests the factors impacting adoption of online service channels include *innovation characteristics* such as relative advantage, complexity, perceived risk, and compatibility, as well as *individual factors* such as inertia (Meuter et al. 2005; Tan & Teo 2000). Drawing on this prior work, this study examines a combined framework of perceived technology attributes and individual factors as antecedents of adoption intentions, in this case, intention to use Internet banking over other options. Table 1 summarizes the research hypotheses that underpin this study.

RESEARCH METHOD

The research model will be evaluated using a field survey of Internet banking adoption. To date, the survey instrument has been pretested using a panel of academics and individuals from the target population. This has been followed by a pilot study conducted in Jamaica; full-scale data collection is yet to be completed.

Table 1. Research hypotheses and supporting literature

Antecedent	Justification of Direct Influence on Intention	Literature
Innovation Characteristics		
H1: Perceived usefulness is positively related to adoption intention.	If Internet banking is seen as more useful than alternative channels, it is more likely to be used.	(Davis et al. 1989; Moore & Benbasat 1991; Tan & Teo 2000)
H2: Perceived ease of use is positively related to adoption intention.	If individuals believe Internet banking is easy to use, they are more likely to use the technology.	(Davis et al. 1989; Moore & Benbasat 1991)
H3: Compatibility is positively related to adoption intention.	The greater the compatibility between Internet banking and personal styles the more likely an individual would use Internet banking.	(Moore & Benbasat 1991; Tan & Teo 2000)
H4: Perceived risk is inversely related to adoption intention.	Most decisions include an element of risk since one cannot always be certain that a service will perform as expected. Hence the greater the perceived risk, the less likely for individuals to adopt Internet banking.	(Liao & Cheung 2001; Vijayasarathy 2004);
Individual Factors		
H5: Inertia is inversely related to adoption intention.	Most individuals currently use various means to do their banking. Adopting Internet banking requires time and effort. Inertia may reduce the motivation to do Internet banking.	(Gremler 1995; Meuter et al. 2005)

The constructs will be measured using multi-item scales adapted from existing sources (Davis et al. 1989; Gremler 1995; Moore & Benbasat 1991; Tan & Teo 2000). Prior research also suggests that widely used models of behavioral intention (e.g. Ajzen & Fishbein 1980) are sensitive to choice sets, with intention being strongly influenced by the choice set (Davis & Warshaw 1991). As such, one option when examining intentions is to explicitly identify the choice situation that is considered in the adoption decision. To measure the extent to which an individual would use Internet banking given other modes, 3-items were developed for this study (e.g. *To do my banking activities, I would choose to use Internet Banking over any other means.*)

Finally, the research model will be assessed using PLS-Graph 3.00.

CONCLUSION

Despite the importance of understanding adoption in a multi-channel environment, little has been done in IT adoption research to explicitly consider the choice situation in relation to adoption intention, particularly where this may involve choosing from among two or more IT-based service channels. This research therefore aims to understand the factors influencing adoption intentions in a multi-channel environment, in this

case, an individual's intention to use Internet banking over other means. It is expected that the findings will extend understanding of adoption intentions where viable alternatives exist.

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