Searching for Value in Researching the Adoption and Use of M-Services: Pilot Research Findings

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ABSTRACT

Mobile services have become an important part of the e-commerce landscape. Although research has been conducted on what services people use and what value they attach to those services, we know little about the underlying reasons at the individual level for the adoption and use of m-services. A contingency approach that draws upon the theory of consumption value and the theory of planned behaviour within a life history methodology provides a framework to examine the adoption and use of mobile services. We explain how a life history research methodology can help in uncovering the "why" of perceived value.

INTRODUCTION

Various theories are used in information systems to determine the patterns of adoption of technologies at an organisational level. However, the reasons for adoption of technologies and services at the individual level are less understood. The aim of this paper is to propose and investigate the value of an alternative framework and methodology to study m-services adoption and usage.

THEORETICAL FRAMEWORK'S FOR EXAMINING M-SERVICES ADOPTION AND USE

A number of theories relating to the adoption of new products/ technologies by consumers exist in the literature: Rogers' (1962; 2003) Diffusion of Innovation theory, Ajzen's (1991) Theory of Planned Behaviour (TPB) and The Technology Acceptance Model (Davis et al., 1989) which derives from Ajzen'& Fishbein's (1980) Theory of Reasoned Action (which TPB is based upon). Sheth, Newman and Gross's (1991a) theory of consumption values is also analysed, although this model hasn't been directly applied to technology adoption, its unique perspective on consumption values can provide valuable insights to better understand m-commerce adoption drivers. Most recently Venkatesh, Morris, Davis and Davis (2003) developed the unified theory of acceptance and use of technology that is also based on the TPB and TAM.

Consumers' adoption of new technologies/services depends on a number of factors, for example, the type of to be offered, how comfortable people feel using the technology, how user friendly the service interface is, socio-economics, motivation (benefits), culture, demographics and psychographics, time that the customer expects to use the service and past experience (Daghfouls, N.; Petrof, J.V. and Pons, F., 1999; Sultan & Henrichs, 2000). With so many variables it is difficult to develop an explanatory theory, as different theories will focus on different aspects of the adoption process.

Sheth, Newman and Gross (1991a, 1991b) conceptualized a model to help explain how consumers make decisions in the marketplace. They based their model on the principle that the choices consumers make are based on their perceived values in relation to what the authors called

"market choice", and that the perceived value contributes distinctively to specific choices. In their theory, they explain market choice behaviour as a multidimensional model. Three dimensions of consumers' choice were identified:

- to purchase or not purchase a product (or service);
- of one type of product over the other;
- among brands.

Sheth et al. (1991a) classify five categories of perceived value: functional, social, emotional, epistemic and the conditional value. These five values were conceptualised based on a diversity of disciplines including social psychology, clinical psychology, sociology, economics and experimental psychology (Sheth et al., 1991a).

Although this theory has not been used to explain adoption, its unique conceptualization of product values provides a multidisciplinary approach that can contribute towards the understanding of the attitude (adoption) toward the product. The limitation of this theory to understanding adoption is that it cannot be used to understand organisational adoption, as it does not address influential factors that affect group adoption. Another limitation is that this model cannot be used to understand adoption in cases where the buyer is not the user.

The Theory of Consumption Values can identify the main value-adding elements in m-commerce or the primary drivers for adopting m-commerce. A summary of the strengths and limitations associated with the theoretical perspectives on adoption of technology are presented in Table 1.

Although interpretive research is recognised as a useful strategy to investigate "why" and "how" questions (Walsham, 1995; Klein & Myers, 1999; Myers, 1999), there has been little interpretive research done to understand m-commerce adoption. One of the reasons for this is that it may be thought that the most common theoretical frameworks used to explain adoption were validated through a positivist paradigm: Rogers' Diffusion of Innovation theory, Ajzen's Theory of Planned Behaviour (TPB) and The Technology Adoption Model (Davis et al., 1989) which derives from Ajzen & Fishbein's Theory of Reasoned Action (which TPB is based upon).

LIFE HISTORIES AS A TOOL TO UNDERSTAND M-COMMERCE ADOPTION AND USE

A life-history approach can be used to uncover the underlying reasons for adoption of m-services. Although this approach has been explained either as belonging to the biographical approach (Creswell, 2003) or as ethnographical (Walsham, 1995; Klein & Myers, 1999; Myers, 1999), Denzin and Lincoln (2000) have presented life history as an independent strategy of inquiry, instead of a sub-set of another interpretive strategy of inquiry.

Table 1. A Comparison of Adoption Theories

	Theory Abstract	Strengths	Limitations	Research Paradigm and Method of validation	Main References
Diffusion of Innovation Theory	Concentrates on how consumers learn about an innovation. It draws on the communication channels and on the fact that people from the same social system will depend on media and interpersonal communication differently.	It has been the main framework used to study consumers' adoption of innovation over time. Empirically validated.	Focus primarily on the communication issues and product life cycle. Does not proactively help to understand option behaviour.	Positivist Quantitative	Rogers (1962) Bass (1969) Rogers (2003)
Theory of Reasoning Action	TRA states that Intention to adopt is affected directly by attitudinal components (beliefs about the outcome of the behaviour and beliefs of the consequences of the behaviour), and the subjective norm component (level of importance or desire to please significant others and/ or society).	Cognitive model. Work at the individual and organisation level.	Studies the attitude towards adoption behaviour. Limitation in dealing with behaviours which people don't have or don't perceive to have complete control.	Positivist Quantitative	Fishbein & Ajzen, (1975) Ajzen & Fishbein, (1980)
Theory of Planned Behaviour	TPB is an extension of TRA. It ads a third dimension The Perceived behaviour control component that looks at uncontrolled external circumstances.	Gives an understanding of the adoption process from the cognitive behaviour perspective.	Studies the attitude towards adoption behaviour not attitude towards the product.	Positivist Quantitative	*Ajzen, (1991)*
Technology Adoption Model	TAM can be described as an adaptation of TRA customised to technology acceptance. The intention to adopt is affected by two beliefs: Perceived usefulness and the perceived ease of use the new technology.	Model customised for the study of user acceptance of information systems/technology.	Same as TRA Draw upon studying attitude toward behaviour not attitude toward the product.	Positivist Quantitative	Davis, (1989) *Davis et al., (1989)*
Unified Theory of Acceptance and use of technology (UTAUT)	This theory integrates TRA,TAM,TPB, DOI model of PC utilization, motivational model and social Cognitive theory	Model aimed to enhance the understanding of user acceptance of technology	As the model integrates several theories that focus on intention this model does not concentrate on actual behavior but in intention.	Positivist Quantitative	Venkatesh, Morris, Davis and Davis (2003)
Theory of Consumption Values	The choices consumers make are based on their perceived values in relation "market choice" and that the perceived values contribute distinctively to specific choices.	Studies attitude toward the product/service/ technology. Business proactive. Identifies adoption drivers. Marketers can develop /promote products according to its perceived consumption values. The 5 values provide a simple and broad framework.	Has not been used towards technology adoption. *Does not address influential factors that affect purchase decision involving 2 or more individuals e.g. couples or organizations.*	Positivist Quantitative	Sheth et al., (1991)

The life history research approach can be defined as "any retrospective account by the individual of his life in whole or part, in written or oral form that has been elicited or prompted by another person" (Watson & Watson-Franke, 1985, p2). However, the life history approach has different definitions depending on the perspective a researcher chooses (Tierney, 2000).

According to some researchers (Brown, 2002; Jackson & Finney, 2002) life-events not only shape behaviour, but also explain the way the event is handled and this may result in different future behaviour of the individual. The use of life-histories allows a link to be made between the values attached to a service and an individual's characteristics, lifestyle, experiences, work practices and communities of use.

IDENTIFYING M-COMMERCE DRIVERS THROUGH LIFE HISTORIES

This section discusses the underlying reasons for m-commerce adoption and use. It uses the theory of consumption value as a framework but examines the individual and group reasons behind the value perception. The latter are arranged around the concepts of lifestyle, experiences/ background, and personality, community of use and social norms and values.

The discussion incorporates extracts from life histories of m-service users. The study included high school students (teenagers), part-time and full-time university students of different ages, parents, workers and professionals.

Lifestyle

A person's lifestyle influences the need and desire to use mobile technology (Green, 2002). A busy person who is always on the move may adopt services for functional reasons. For example, Morris bought his first mobile phone at the age of 19. The main reason was because at that time a mobile phone represented independency from his parents.

I got my first mobile phone at 18 because my mother was bored of doing the receptionist job. So, one day I bought a mobile phone and she said 'good!'. (Student, 19)

The main value driving the purchase of a mobile phone in this case was the functional value because Morris used the product as a basic mobile tool for convenient communication with others. Less reliance on his mother to take messages also has a functional value, perhaps with an emotional implication in this case since on-going message taking appeared to be an imposition on the mother. He started to use additional mobile services for the functional value after he had become familiar with Short Message Services (SMS):

Yes. I started using SMS. It is so convenient! It is good when you just have something short to say like 'I am gonna be late, sorry'. It is very useful! (Student, 19)

Functional benefits of mobile services are prevalent in the business environment. MMS for example has many ways of delivering business value:

My mobile is a critical tool to close business deals. I have a fruit import export business and the ability to take photos of the products and send them straight away from my phone has helped me to close several contracts. (Business Owner, 34)

Juggling personal and professional lives are facilitated by the use of SMS. The following account expresses how work, home, and family issues are being multi-tasked rather than operating in discrete worlds:

Sure, with SMS I can handle personal things during commercial hours as otherwise I would not have time to deal with them. I try to work from home as I am a single parent but it just seems to make me work harder and longer. (Photographer, 44)

Personality
Personal character traits such as curiosity and interest in technology could play a role in the decision to adopt mobile technologies. For instance, Jack links his decision to adopt mobile technology to his general interest in technology:

I think I try and think logically and rationally. I tend not to think emotionally but technically. (…) The youngest is always the technical wiz because they are the youngest and you know they are brought up with the latest gadgets. (Employee, 23)

Some people see mobile communications as way of remaining in control of their lives. When applied to emails this is something that can be done throughout the day rather than answering emails in batches at the start or end of day:

I'm a control freak so the convergence between mobile phone and email is perfect for me. I can manage all my contacts check on tasks no matter where I am. (Karen, 38)

Some people are curious and want to learn about the technology and the newer services available. When asked about other services Neil started to talk about Multi-media message service (MMS):

I want to know what the technology is and I want to know whether I should buy this or should use it. It is important for me this new technology and I am curious about it. It's really fun and I like it. (Sales person, 30)

The choice of words by the respondent reflected that curiosity and novelty were the main reasons for him to start using additional services. According to Sheth et al.'s model curiosity and novelty fall under the epistemic value.

Background/Experiences
A person's background can provide clues about the value attached to products and services. For example mobile commerce may be seen by some as an extension of the personal computer:

I've always loved computers. I got my first computer at 10. It was one of those old Atari. I then had my "real" first PC at 17. I've always been interested by IT stuff! I've learned everything I know about computers by myself. I am the same with mobile phones. (Student, 23)

The interest in technology, particularly computer systems, was a recurring theme:

Being a technical person I picked it up quite quickly and most of the features were easy to use. (Employee, 24)

Community of Use
The community concept has been used in a number of areas in information systems research. Authors have used online community and virtual community interchangeably. Generally, the term virtual community is far broader, and can include any technology mediated communication, whilst online would be more applicable to the Internet or the World Wide Web portion of the Internet. Communities of practice have gained considerable recent attention with the knowledge management research community.

The community of use concept in this paper is used to describe any group that has a shared understanding of the value attached to the product or service. Communities of use could include the family unit:

The main reason was that my parents could not get me whenever they wanted, that was the main thing to get a mobile phone. (Student, 21)

A parent saw SMS as a cheap and effective way to organise and keep track of family members:

My kids showed me how to use the smart text feature of SMS 5 years ago. Now I rely so much on it that it is not funny. With SMS I can keep track of my kids, send a message across even if they are at uni. (Beautician, 45)

Social groups are also a driver for mobile services. In today's life, social relationships have become fragmented and mobile technologies represent a way to bring continuity back (Green, 2002). It is common to find young people that use a mobile phone so they can be part of a social group:

I needed it because of my friends; most of them have a mobile phone.

Some people place a great emphasis on being socially connected:

I love to travel and I've always liked to feel that I'm still connected with a place or people even if I'm not physically there. It is pretty important to me to keep in touch – you never know when you may need someone. (Manager, 36)

The community of use may be just two people and in this couple's case it overcame the problem of being separated for most of the week:

I forced my girlfriend to use SMS in the beginning. It is a way for her to feel more connected, more in touch. It brings us closer as I can only see her on weekends. (Artist, 45)

Group pressure to own a mobile phone and be available to the members of the group is also a factor in a community of use:

When I decided whether I should get one I thought I should be available other people so they can get hold of me. The rationale would have been definitely peer pressure. (Worker and part-time student, 20).

CONCLUSIONS

There are great expectations in relation to the adoption of m-commerce. This paper has discussed the utilisation of the theory of consumption value (Sheth et al., 1991a) and life history methodology as an alternative framework to understand m-commerce adoption and use. The consumer value theory and life history approach provide a deeper explanatory capability because combined they examine the underlying rationale in the decision making process.

Although Sheth's model is useful as a starting point the life-history approach to understanding why people adopt and use mobile services demonstrates the complexity and fuzziness of the decisions. Mobile technology has a functional value as it is convenient but the decision to adopt may often be combined with the desire to feel part of a group or community of use. Indeed, the erosion of boundaries between work, home, leisure, learning and education, partly brought about by mobile technology, means that people may have multiple reasons for adopting or using services. Mobile technology can serve multiple needs including, family, friends, work and curiosity or learning.

Product and service developers need to examine these deeper factors to come to a sophisticated understanding of their adoption related decisions. The combination of the Theory of Consumption Value and a Life History perspective provide a contingency approach which integrates theoretical and methodological frameworks. It is argued by some that this integration is likely to provide a way forward in marketing research (Zeithaml, Varadarjan, & Zeithaml, 1998).

The use of life-histories allows a link to be made between the values attached to a service and an individual's characteristics, lifestyle, experiences, work practices and communities of use. This in turn allows the researcher to investigate what actually drives a person's adoption and use of m-services.

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