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Paradoxes and Technology Adoption: A Retail Banking Analysis

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ABSTRACT

The study reported in this paper explores consumers' experiences with technology-assisted service encounters by investigating the applicability of Mick and Fournier's paradoxes of technology adoption to the electronic banking scenario. In-depth interviews were conducted to explore consumers' experiences when using electronic banking and the results were compared to those of Mick and Fournier. The findings are similar, suggesting that when consumers adopt technology they can simultaneously develop positive and negative attitudes. The findings of this study also suggest that the nature of some of the paradoxes experienced by consumers may depend on the industry and the technology being investigated.

ARTICLE

Introduction

The aim of the study reported in this paper is to explore consumers' experiences with technology-assisted service encounters in the retail-banking sector. This industry sector was selected because technological innovations have significantly changed how banks deliver their retailing services, providing consumers with electronic access to their transaction accounts through electronic funds transfer at point of sale (EFTPOS), automatic teller machines (ATM), telephone, Internet and home banking.

Mick and Fournier's (1998) theory of technology adoption is the most pertinent to this study as it focuses on consumers' behaviours and attitudes once they have adopted a technology. Mick and

Fournier studied consumers' perceptions of technology and the development of their attitudes once they had adopted a technology. The authors found that consumers experience eight paradoxes of technology: control/chaos, freedom/enslavement, new/obsolete, competence/incompetence, efficiency/inefficiency, fulfils/creates needs, assimilation/isolation and engaging/disengaging.

The control/chaos paradox was found to be the most prevalent among their informants. The finding was that technology evokes feelings of control when it dictates consumers' activities and feelings of chaos when it interferes with their activities resulting in confusion. Feelings of freedom are experienced when technology provides minimal restrictions and independence. By comparison enslavement results when activities are restricted by dependence on technology. The new/obsolete paradox was found to result from new knowledge and innovations generated by science that constantly supersede previous existing knowledge. This is the case where continuous technological innovations constantly make existing technologies obsolete. Technology also evokes feelings of competence and incompetence. Competence results when consumers understand how a particular technology works and incompetence results when they are ignorant of how to use a particular technology.

Technology can be considered efficient when tasks can be completed in less time and with less effort. However, inefficiency may result when the same tasks require more time and effort, such as when the technology does not work like it is expected to. Mick and Fournier's informants stated that technology can fulfil some needs but it can also identify unrealised needs. The fulfils/creates needs paradox appeared to be subtle and was discussed in relation to the ownership and use of computers. For instance, some informants indicated that the computers they own fulfil various needs whilst others felt the need to own computers and/or acquire the knowledge to utilise them. Technology can also result in human separation and/or human togetherness. It facilitates assimilation when consumers engage in activities such as watching sports and movies on television and communicating through the use of telephones and computers. By comparison, isolation results when the time consumers spend watching television and playing video games erodes the time they spend socialising. Mick and Fournier also found that the use of technology could be engaging and/or disengaging. It is engaging when it facilitates the flow of activities and disengaging when it leads to disruption and passivity@ (1998; p126).

Mick and Fournier's study addressed the use of technologies such as computers, answering machines, caller identification kits and video cameras. These are products that consumers typically purchase and own for leisure-related outcomes. This study investigates the generalisability of Mick and Fournier's eight paradoxes to the Australian banking industry. The emphasis is thus on forms of technology that are often not owned by the consumer and that are used to facilitate commercial transactions rather than leisure pastimes.

Methodology

A sample of 20 informants was selected from the population of Western Australians who currently use electronic banking via a snowballing technique. The snowballing process began by asking colleagues to introduce the researcher to consumers who use Internet banking. These informants were in turn asked to introduce the researcher to other users of electronic banking. Data collection was done through semi-structured in-depth interviews, which are ideal in scenarios such as this where the available secondary data is limited and it is necessary to probe interviewees to gain a thorough understanding of their behaviours and attitudes.

Control/Chaos

Interviewees indicated that using banking technology makes them feel like they are in control because they can conduct many transactions at their convenience. However, chaos can result when they cannot initiate or successfully complete a transaction. The interviewees reported feelings of control when there are minimal restrictions and they can conduct any of their banking transactions with the use of technology. Once they are accustomed to conducting their own transactions chaos can result when they expect to use the technology and it is unavailable.

Freedom/Enslavement

The interviewees indicated that banking technology gives them freedom to conduct their transactions whenever and wherever they choose. They can pay bills, transfer funds and perform other transactions at their own convenience. However, some interviewees indicated that though they do most of the banking electronically there are limits to what they can achieve. In particular, they discussed restrictions imposed on the number of transactions and the nature of transactions they can conduct.

New/Obsolete

Some informants referred to the rate at which electronic banking is changing and the implications for customers having to continually learn new banking procedures.

Competence/Incompetence

The interviewees indicated they feel competent when they feel they have the ability to complete their own transactions successfully. However, their ignorance of how some electronic banking modes work and their inability to comprehend the full capabilities of some electronic banking modes can make them feel incompetent.

Efficiency/Inefficiency

The use of technology may result in some tasks taking less time and effort. It can also result in inefficiency when tasks require more time and effort. This paradox was discussed relative to electronic banking transactions and transactions conducted in the bank with human tellers, with electronic banking generally felt by interviewees to be more efficient than dealing with an employee. Electronic banking transactions are considered efficient when consumers can access their accounts and complete their transactions without going through numerous voice and visual cues provided by the banking modes, and without visiting a bank branch. However, these transactions are perceived to sometimes result in inefficiency when consumers have to follow each of the cues provided by both banking modes in order to perform their transactions or when the failure of an electronic banking mode results in the consumer having to visit a bank branch.

Fulfils/Creates

Interviewees in this study indicated that banking technology has led to the fulfilment of many of their banking needs, such as the easy payment of bills and access to and transfer of funds. However, for some interviewees the advent of electronic banking has resulted in the identification of previously unrealised needs. Examples of such needs are the desire to own computers for online banking and the need to learn and understand how to conduct electronic banking transactions.

Assimilation/Isolation

The interviewees made no direct or implicit references to electronic banking fostering human togetherness, however they indicated that it can result in isolation. Some interviewees enjoyed personal interaction with bank tellers, viewing their banking activities as social events. For these interviewees, electronic banking is creating isolation by destroying their interaction and relationships with bank tellers and managers.

Engaging/Disengaging

Electronic banking is engaging when it facilitates the flow of activities such as easy access to accounts, bill payments, funds transfers and financial markets. However, it is disengaging when the electronic banking mode does not facilitate the transactions

required by the respondent. Informants suggested that they are motivated to use electronic banking technology because it facilitates their banking. It allows them to withdraw money, pay bills, make account enquiries, enact transfers and participate in brokerage services.

Conclusions

While most of the discussions of the paradoxes were similar to those described in Mick and Fournier's study, there were areas of difference in the control/chaos, freedom/enslavement, new/obsolete and engaging/ disengaging paradoxes. It appears likely that a central cause of these differences was the types of technologies investigated. In terms of the new/obsolete paradox, while consumers can own telephones and computers they typically own these items for purposes beyond electronic banking. They cannot own ATMs and EFTPOS machines, nor are they responsible for the banking software programs that require constant innovation. As such, the notions of new and obsolete appear to have less relevance to users of electronic banking. In regards to the control/chaos paradox, perceptions of control differed markedly between the two studies. Mick and Fournier's informants indicated that technology is powerful and it controls them and directs their activities. The interviewees of this study suggested that banking technology gives them the power to control their banking activities. In terms of the freedom/enslavement paradox, Mick and Fournier's informants indicated that they sometimes feel like slaves to technology, while the interviewees in this study did not feel like slaves. Instead, they felt that their activities are limited by the nature of the electronic banking technologies and the penalties imposed if they exceed the number of free transactions they are allowed. Finally, Mick and Fournier did not find the engaging/disengaging as paradox prevalent as it was in this study. This again may be because of the products used in the analyses.

References

Mick, G. D. and S. Fournier (1998). Paradoxes of technology: consumer cognizances emotions and coping strategies, *Journal of Consumer Research* 25(September): 123-142.

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