

## **The Adoption of e-Banking: The Case of Omani Banks**

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*In recent years, the adoption of electronic banking (e-banking) began to occur quite extensively as a channel of distribution for financial services due to rapid advances in information technology (IT) and intensive competitive banking markets. Despite this growth of IT worldwide, Omani banks continue to conduct most of their banking transactions using traditional methods. Understanding the reasons for the lack of such technological innovation in developing countries such as Oman will develop a fruitful research. This paper will address what are the enablers and the inhibitors of e-banking adoption in the Omani banking industry. In this study, four perceptions issues were explored: relative advantage; organizational performance, customer relationship and ease of use. From an analysis of 15 semi-structured interviews, the findings revealed that all these four perceptions issues jointly provided an excellent understanding of what were the enablers and inhibitors of e-banking adoption.*

Field of Research: E-banking, adoption of e-banking, enablers and inhibitors of e-banking.

### **1. Introduction**

A strong banking industry is important in every country and can have a significant affect in supporting economic development through efficient financial services. In Oman the role of the banking industry needs to change to keep up with the globalization movement, both at the procedural level and at the informational level. This change will include moving from traditional distribution channel banking to electronic distribution channel banking. Given the almost complete adoption of e-banking in developed countries, the reason for the lack of such adoption in developing countries like Oman is an important research that will be addressed by this paper.

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## **2. The Adoption of e-Banking**

Daniel (1999) described electronic banking as the provision of banking services to customers through Internet technology. Other authors (Daniel, 1999; Karjaluoto et al., 2002) indicated that banks have the choice to offer their banking services through various electronic distribution channels technologies such as Internet technology, video banking technology, telephone banking technology, and WAP technology. Karjaluoto et al. (2002) also indicated that Internet technology is the main electronic distribution channel in the banking industry. In more detail the author described e- banking as an online banking that involves the provision of banking services such as accessing accounts, transferring funds between accounts, and offering an online financial service.

Wang et al. (2003) claim that in the 1990s e-banking was under-utilised as business organisations used it only to market their products and services. Thornton and White (2001), who examined customer orientations and usage of financial distribution channels in the Australian financial industry, found that more recently most financial institutions, faced with competitive pressure after the introduction of deregulation in 1983, have rethought their strategies to take full advantage of Internet technology. Tan and Teo (2000) note that the challenge to expand and maintain banking market share has influenced many banks to invest more in making better use of the Internet. The emergence of e-banking had made many banks rethink their Information Technology (IT) strategies in competitive markets. They suggest that the banks that fail to respond to the emergence of e-banking in the market are likely to lose customers and that the cost of offering e-banking services is less than the cost of keeping branch banking. This notion was also confirmed in a study conducted by Jasimuddin (2004) who examined the role of e-banking in Saudi Arabia (a neighbour of Oman). Jasimuddin indicated that the majority of Saudi banks had taken advantage of Internet technology to establish web sites but few offered e-banking services. He suggested that if the Saudi Arabian banking industry wished to be successful in the global economy it would need to integrate Internet technology into its banking strategy. Despite the fact that Internet technology acceptance is growing worldwide, Omani banking industry are yet to adopt fully Internet technology. In deriving a framework for this study four existing research frameworks were considered in the following sections (2.1; 2.2; 2.3 and 2.4): The Theory of Reasoned Action (TRA); The Theory of Planned Behaviour (TPB); The Technology Acceptance Model (TAM) and Diffusion of Innovations.

### **2.1 The Theory of Reasoned Action (TRA)**

Fishbein and Ajzen (1975) developed the Theory of Reasoned Action in 1975. They later refined it with empirical evidence to support its validity and reliability (Ajzen and Fishbein 1980). In summary they postulated that: an individual's behavioural intention is the immediate determinant of behaviour, their attitude and subjective norm are mediated

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through behavioural intention and their behavioural and normative beliefs are mediated through attitude and subjective norm.

### 2.2 The Theory of Planned Behaviour (TPB)

After identifying some problems with the Theory of Reasoned Action, specifically that it was designed to predict and explain behaviour based on the assumption that this was under a person's volitional control, Ajzen (1991) came up with a modification: the Theory of Planned Behaviour. To achieve this, Ajzen extended TRA by adding another construct called *Perceived Behavioural Control*, which refers to an individual's perception of the "... presence or absence of requisite resources and opportunities" (Ajzen and Madden 1986 :457) required to perform the specific behaviour.

### 2.3 The Technology Acceptance Model (TAM)

TAM is a theoretical model that was developed to evaluate the effect of system characteristics on user acceptance (Davis 1986 :7). In a similar fashion to the TRA, TAM assumes that a computer user generally acts quite rationally and uses information in a systematic manner to decide whether to adopt, or not to use this technology in the workplace. Davis identified three major determinants of TAM that relate to cognition and effectiveness and were suggested by previous research studies. He began with the TRA and adapted this as a basis for causal links between *perceived usefulness*, *perceived ease of use*, *attitude towards using technology* and *behavioural intention* to explain technology adoption.

### 2.4 The Diffusion of Innovations (DI)

The theory of Diffusion of Innovations as described by Rogers (1995) is well known. Rogers describes diffusion of innovations as: "... the process by which an innovation is communicated through certain channels over time among the members of social systems. It is a special type of communication, in that the messages are concerned with new ideas" (Rogers 1995 :5). A decision not to adopt an innovation relates to the rejection of the available new idea. However, in order to explain the rate of adoption of innovations Rogers suggests measurement of the following *perceived characteristics of innovations*: (1) relative advantage (2) compatibility; (3) complexity; (4) trialability; and (5) observability. Rogers (1995) postulated that the adoption of innovations is influenced by these five characteristics, and that they can explain the rate of technology adoption.

## 3. Research Issues and Methodology

In an attempt to explore and understand, the research issues and methodology in sections 3.1 and 3.2 were considered.

### 3.1 Research Issues

The literature suggests a number of factors that could enable or inhibit the adoption of information technology (IT). First, IT diffusion literature (Tornatzky and Klein 1982; Moore and Benbasat 1991; Rogers 1995) highlights the importance of perceptions of *relative advantage* in determining the adoption of new technologies. Rogers (1995) suggests that the rate of adoption of a new innovation is related to (perceived) relative advantage: the greater the perceived relative advantage, the faster the adoption. Second, the desire to improve *organisational performance* is seen to be an enabler for technological change. If Internet technology could be used to improve its performance, a bank would be able to gain advantage in a competitive environment, and many authors (Kettinger et al. 1994; La and Kandampully 2002; Soliman and Janz 2004) argue that IT has the potential to achieve this. Third, any chance to improve the *relationship with customers* is also pointed to by researchers (Julian and Ramaseshan 1994 :29; McKenzie 2001) as a reason for business to adopt new technologies. An important question, however, is how a bank could enhance its customer relationships through Internet technology adoption and the literature suggests that this should be considered in relation to customer trust, commitment and satisfaction. Jabnoun and Al-Tamimi (2003) examined perceived services quality in commercial banks in the United Arab Emirates, emphasizing the importance of service quality to maintain market share, concluding that customers value human skills the most in service quality. More recent studies (Khalfan et al. 2006; Al-Sabbagh and Molla 2004 ) conducted in the Omani banking industry, reported that security concerns have been one of the major issues in the e-banking adoption. Finally, the importance of *ease of use* in determining successful IT adoption has been highlighted in much previous literature (Davis, Bagozzi and Warshaw 1989; Moore and Benbasat 1991; Taylor and Todd 1995). An examination of these factors then became the basis of this research project as shall be elaborated below.

### 3.2 Methodology

Fifteen interviews were conducted with strategic, tactical and operational managers at each of five major banks in Oman as show in Table 1. Data was gathered through semi-structured interviews with the managers, and available internal and public reports were used to facilitate understanding for this interesting study.

**Table 1:** Classification of participants according to level of management.

Country	Banks	Interviews with bank managers			Total
		Strategic	Tactical	Operational	
Oman	5	5	5	5	15
Total	5	5	5	5	15

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Interviews were based on issues identified from the research issues literature to explore in-depth the major enablers and inhibitors of e-banking adoption in the Omani banking industry.

### 4. Research Findings

The study found that bank managers' perceptions of four concepts: *perceived relative advantage*, *perceived organisational performance*, *perceived customer/organisational relationship* and *perceived ease of use* provided a broader understanding of e-banking adoption in the Omani banking industry. The first construct: *Perceived Relative Advantage* (PRA) construct relates to the degree to which bank managers think that Internet technology might help their bank gain advantages in the industry. From the literature three major issues emerged relating to the perception of relative advantage: *convenience of services*; *innovative use of IT*; and *management of banking services*. Most respondents from the Oman banks expected that Internet technology *could* enable them to offer more convenient services to their customers. As one of the managers put it:

*... I think that's one of its advantages, obviously. One of the key challenges for us, though, is around making sure that we are up all the time in terms of no down time in service, which sometimes is incredibly hard to do given the amount of traffic that we have through our site.*

In regards to innovation of ideas – innovative use of IT, responses raised concerns on: rapid development of ideas, culture, sophistication/ customisation of services, Internet security and online marketing. Most respondents thought that rapid development of innovative ideas was a concern associated with the issue of their creativity in offering banking services to their customers. They took the view that rapid development of innovative ideas could be highly achieved through Internet technology adoption. From the broad question related to management of services respondents raised several concerns: easy to follow up requests/complaints, Internet security, awareness/knowledge about Internet technology, consistent quality service, business process re-engineering, and convenience of available service. In response to the issue of management of services, respondents noted that it was easy to follow up requests/complaints, Internet security, awareness/knowledge about Internet technology, consistent quality service, business process re-engineering, and convenience of available service.

The second construct: *Perceived Organisational Performance* (POP) is associated with how much a bank manager thinks Internet technology could improve their organisational performance. Three issues: *profitability*; *market environment* and *employee productivity* were utilised to explore this construct in depth. From the broad question related to profitability, most respondents indicated two impediments: high technology investment cost and the need for economies of scale for Internet technology use are inhibiting the rate of E-banking adoption. As one highlighted:

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*This, for the reason I was saying to you, if you make, you know, a major investment and which cannot be compensated in the short term because you can't increase your passes, and it's not going to be up, so the competitive market for those who are likely to be beaten at the same time and you cannot reduce your major costs for the Bank. It is still far, and another thing, you will not be able to do, you know, to affect, aah, to reduce, aah, your manpower cost.*

Productivity of employees was another issue of interest. Most respondents expected that their business efficiency could be improved on the Internet. As one manager put it:

*Yes, I think definitely. Going back to what I said before, if we adopt the Internet we would be able know our customers and we would be able to react quickly and we would be able to respond much more quickly too.*

The third construct: *Perceived Customer/Organisational Relationship* (PCR) relates to how a bank manager perceives Internet technology adoption in terms of improving the relationship with their customers. In the literature, three major issues emerge related to the perception of customer/organisational relationship: *customer trust*, *customer commitment*, and *customer satisfaction*. Most respondents were concerned about the problem of Internet security as bank customers cannot put their full trust in Internet technology due to possible fraud and privacy violation problems. The Omani banking industry recognises the difficulty of solving this problem but believed that Internet security management is possible through continuous surveillance and maintenance of their database. One respondent noted:

*In terms of security, I think that's a concern that all customers have, about Internet banking and the safety of their information and their funds. I think it's always at the back of their mind.*

On the other hand, respondents saw the Internet as an obstacle to customer loyalty because they believed that people could do better than machines and it seems that the Omani banking industry is mostly relying on human capital to deliver their banking services. In addition, most respondents favoured the view that Internet technology could reduce conflict between the bank and its customers and hence improve customer satisfaction. The final construct: *Perceived Ease of Use* (PEOU) measures how easy a bank manager believes that Internet technology is to use. The literature suggests that if technology is perceived to be easy to use then the rate of adoption will increase. The research threw up three major issues related to perceived ease of use: *easy to navigate*, *easy to learn* and *easy to manage*. The difficulty of navigating on the Internet was highlighted by Omani bank managers, one of whom used the following example to demonstrate the problem of lack of awareness/knowledge about Internet technology amongst customers:

*As I said, in Oman here we still haven't started but we think that it will not be that easy for us compared to other parts of the world because they are well ahead of us. It will take a little bit of time because we need to train people how to use the Internet.*

This difficulty then acts to slow down the process of adoption. Participants raised several concerns about how easy it is to learn Internet technology including fear of new technology, web-site design and user friendliness, but most respondents agreed that Internet

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technology was easy to learn. The last issue related to management of financial transactions on the Internet. In summary, the enabling and inhibiting factors to adoption of E-banking in Omani banking industry are shown in Tables 2 below:

**Table 2:** Enablers and Inhibitors of E-banking in Oman.

<b>Omani banking industry</b>	<b>Enablers</b>	<b>Inhibitors</b>
<b>Perceived Relative Advantage</b>	<ul style="list-style-type: none"> <li>- Convenience of service (convenience of available service and convenience of location)</li> <li>- Innovation of ideas (rapid development of innovative ideas)</li> <li>- Management of services (easy to follow up requests/complaints)</li> </ul>	- none
<b>Perceived Organisational Performance</b>	- Productivity of employees (business efficiency)	- Profitability (high technology investment cost and the need for economies of scale for Internet technology use)
<b>Perceived Customer/Organisational Relationship</b>	- Customers' satisfaction (reduce conflict)	<ul style="list-style-type: none"> <li>- Customer trust (Internet security)</li> <li>- Customer commitment (customer loyalty)</li> </ul>
<b>Perceived Ease of Use</b>	- Easy to learn (increased automation of process)	- Ease of navigation (lack of awareness/ knowledge about Internet technology and accessibility of service)

## 5. Discussion and Conclusion

This study explores in depth the adoption of e-banking in the Omani banking industry. Four existing research frameworks were considered in the development of a framework for this study including: TRA, TPB, TAM and DI. The literature also suggests a number of issues

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that contributed significantly in identifying what the enablers and inhibitors of e-banking adoption are including: PRA, POP, PCR, and PEOU. These four issues were jointly investigated in order to solve an existing problem in the Omani banking industry as well as to provide insights into e-banking adoption. From an analysis of 15 semi-structured interviews, the findings of the study show that e-banking in Oman is moving very slowly. The results revealed that all four issues jointly provided an excellent understanding of what were the enablers and inhibitors of e-banking adoption in the Omani banking industry. Most bank managers contributed significantly with their interesting beliefs and experiences and provided excellent understanding to this study.

The findings of this study were consistent with the findings of Moore and Benbasat (1991) and Davis et al. (1989) and the supporting literature on TAM and diffusion of innovation (Rogers, 1995), especially in PRA and PEOU. Moreover, the findings of this study (e.g., PRA, POP, PCR, and PEOU) could be utilized to solve existing problem in the Omani banking industry. This study extends TRA, TAM, TPB and DIT by including two new constructs not previously considered, namely: POP and PCR. It also extends these models by examining these four perceptions jointly in the Omani banking industry. The implication for practitioners include: development of telecommunication infrastructure; customers education; and awareness of security and privacy issues.

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