

# The Impact of Internet Banking Adoption in The Kingdom of Bahrain - Overcoming Barriers to Adoption Through the Use of Biometrics

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The emergence of the Internet in business as a marketing tool and as a communication medium is one of the existing challenges for the banking industry. The Internet has influenced the evolution and the innovation of the banking industry and for the provision of information about products and services. Based on the ideas mentioned, this study aimed to examine the factors which may affect the intention to use and adopt Internet banking in the Kingdom of Bahrain. The cultural context has rarely been commented on in previous research, but as a result of taking this factor into account in addition to the more technical issues, a number of practical implications became evident for banking in Bahrain that may have applicability elsewhere in the Arab world. These strategies also have potential to attract new market segments.

**Key words:** *Internet Banking Adoption, Biometrics, Bahrain.*

## Introduction

The growing utilisation of the Internet and other global online networks has created new commercial opportunities and new sets of global and national trading relationships. With the use of the Internet and Internet banking has brought about many benefits such as convenience, minimal cost of services, no barrier limitations, and a host of others to name a few. Moreover, other benefits are the retention of higher profit, which gives an edge to banks that offer this service, when compared with those banks that operate exclusively offline. While Internet banking services may be accessed from the comfort of one's home or through mobile phones, there are possible drawbacks such as reduced face-to-face interactions and security risks.

## Internet Banking Adoption in the Kingdom of Bahrain

According to Davis (1989), perceived ease of use is “the degree to which a person believes that using a particular system would be free from effort”; on the other hand, perceived usefulness is “the degree to which a person believes that using a particular system would enhance his or her job performance”. Perceived ease of use also affects the perceived usefulness; the intention to use affects real usage behaviour. Figure 1 presents the Technology Acceptance Model.

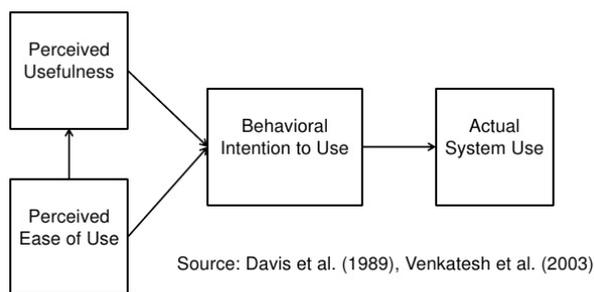


Figure 1: The Technology Acceptance Model (TAM)

### Security

Security is a major concern that contributes to an individual’s desire to adopt online services. Barth & Jong (2017) stated that in the context of users’ social network activities, a similar pattern is observed. The utilisation of various privacy protection strategies such as limiting wall post access, restricting photo tags and sending private messages instead of posting open content is designed to control the flow of information between friends and peers (Barth & Jong, 2017).

Perceived security is an important factor that influences individuals’ Internet banking adoption. Due to security issues ranging from privacy disclosure to financial loss, individuals’ willingness to apply for online services may be lessened (Chorng-Shyong Ong, 2015).

### Privacy

Alloghani M. et al., (2020) stated that security and privacy of mobile devices and systems for identifying security and privacy issues as well as the current measures of detecting and preventing such issues. The growth of the Internet has increased concerns over privacy because of the perceived increase in vulnerability of information (Pope & Lowen, 2009, p. 303). Studies have found that the single greatest factor influencing online purchase behaviour

is a concern over control of private information, and it can be assumed that conducting banking transactions online will raise similar questions about privacy risk (Pope & Lowen, 2009: p. 303).

## **Trust**

It was pointed out by Adesina & Ayo (2010) that the low acceptance of Internet banking is due to lack of trust, which is due to security reasons and lack of credibility in the system. This idea was supported by Gholam (2012), who said that the behavioural intention to use e-commerce, Internet banking included, is influenced by customers' trust. Moreover, there are concerns about its reliability and the extensive media coverage about frauds committed on the Internet which pose a unique challenge for banks to find ways and means to initiate and foster electronic relationships with customers.

## **Hofstede's Cultural Dimensions**

Since Hofstede's definition of culture and his theoretical framework are widely recognised and accepted, they have also been chosen in this research as a theoretical background to assess the impact of the national culture on the adoption of Internet banking. According to Hofstede, values represent: "the deepest level of a culture". The five dimensions of culture according to Hofstede are: power distance, individualism vs collectivism, masculinity vs femininity, uncertainty avoidance and time orientation. Hofstede has previously undertaken values surveys of over 50 countries, including the Arab world, which he defines as including Egypt, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia and the United Arab Emirates. In spite of its rapid economic development, Bahrain remains, in many respects, essentially Arab in its culture.

**Power distance:** the extent to which the less powerful members of organisations accept that power is distributed unequally (Wei et al., 2008). In technological usage, high power distance users pay more attention to the community's reaction to the technology, and then modify their reaction, relying on their place within the hierarchical structure. However, low power distance users are more independent in their technology use (Li et al., 2010).

Power distance, which measures the way in which different cultures approach and accept inequalities between individuals of a society (family, friends etc.); religion or different types of hierarchies and bureaucracies are strong. There is no middle class and political change is expected to be achieved by revolution.

**Individualism versus collectivism:** this refers to the degree to which people are supposed to look after themselves or remain integrated into groups and family (Wei et al., 2008). In high collectivist cultures, users have a tendency to focus more on the community to which they

belong.

**Masculinity versus femininity:** the degree to which tough values, such as assertiveness, performance, success and competition (which are associated with the role of men), prevail over tender values, such as quality of life, maintaining warm personal relationships, service, care for the infirm and solidarity (which are associated with women's roles) (Wei et al., 2008). In using technology, feminine users usually care more about building relationships with other users than the technology itself.

**Uncertainty avoidance:** the extent to which a culture programmes its members to feel either uncomfortable or comfortable, in unstructured situations. Unstructured situations are novel, unknown, surprising or different from usual (Wei et al., 2008).

According to the last Hofstedian dimension, uncertainty avoidance measures the level of risk aversion in a society. Cultures with a high score will refrain from taking risks and testing new methods, preferring the tried and tested ways.

Long-term time orientation means focusing on the future. It implies a cultural trend towards delaying immediate gratification, by practicing persistence and thriftiness.

## **Biometric Technology**

Biometrics is automated methods of recognising customers through their biological characteristics and traits such as fingerprints, finger vein patterns and iris and voice recognition (Trader, 2014). Agidi (2020) stated that the number of passwords people have to manage is becoming a serious problem. Financial institutions need to investigate acceptable biometric alternatives for authenticating mobile banking

Many banks worldwide are already using biometrics with their banking systems to authenticate employees and customers and among all banks utilising biometrics, 52% are located in Asia. Japan has more than an estimated 15 million customers using biometric authentication for banking transactions.

In a new report, "Biometrics for Banking; Market and Technology Analysis, Adoption Strategies and Forecasts 2015-2020", Goode Intelligence revealed that biometrics in banking is already a maturing industry with many successful implementations around the world.

## **Research Method**

Bahrain has one of the highest levels of Internet banking users within the gulf region and has a constantly growing part of its population using e-commerce and e-government channels.



Therefore, a customer is always looking for confidence and trust towards using online channels. A qualitative study was selected in this paper to obtain customer perception related to improvement of the security mechanics and the culture impact of Internet banking adoption in the kingdom of Bahrain. A judgmental sampling was used in this study by interviewing key people in the I.T sector and frequent users of multinational banks in Bahrain. The interviews took place with e-commerce department heads, I.T heads of the major banks, legal advisor, sales people, clerks and academic staff. All they said were selected to obtain a comprehensive overview of the perceptions of implementing a biometric technology and improvement of culture awareness.

### **Conclusion**

The challenges in implementing such technology need a holistic solution that satisfies the customer, bearing in mind the main key factors such as trust, privacy and legal issues in the Kingdom of Bahrain. The accuracy and reliability of identification is an important issue in crime and cyber security today's issues. The biometric recognition is emerging as a sound scientific justifiable tool in investigative procedure as well. It holds future potential to solve the criminal activities. However, replacing the PIN code with a fingerprint will be a future use. Internet security is a global issue requiring coordinated, global actions to improve security at all levels. The responsibility for Internet security lies not only at the individual level, but also at the level of government, software manufacturing, the commercial sector and international organisations. Trust is very vital in online transaction because of the risk and uncertainty associated with the services and lack of physical presence of the parties involved in the transaction.

Culture plays an important role toward a better understanding of information system adoption. In addition, biometric technologies may be perceived as more convenient to users, a related issue is public acceptance.

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