

# Chapter 15

## Understanding Security in Consumer Adoption of Internet Banking: Biometrics Technology Implementation in the Malaysian Banking Context

**Normalini M. K.**

*Universiti Sains Malaysia, Malaysia*

**T. Ramayah**

*Universiti Sains Malaysia, Malaysia*

### **ABSTRACT**

*As a continually growing financial service of electronic commerce, Internet banking requires the development and implementation of a sound security procedure. The existing literature highlights security as the primary factor which determines the adoption of Internet banking technology. The secondary information on Internet banking development in Malaysia shows a very slow growth rate. Much literature states that Malaysian consumers strongly agree that they are slow to adopt Internet banking because of a lack of security and reliability of transactions over the internet. The major factors affecting the adoption of Internet banking in Malaysia involve security, risk, and trust. Since biometrics technology has also been implemented in certain government departments, the issues such as new and impossible to implement in other areas should not occur and technology is growing to enhance the security level of the authentication system. Clearly, in order to grow consumer Internet banking demands, banks must make key improvements that address these consumer concerns.*

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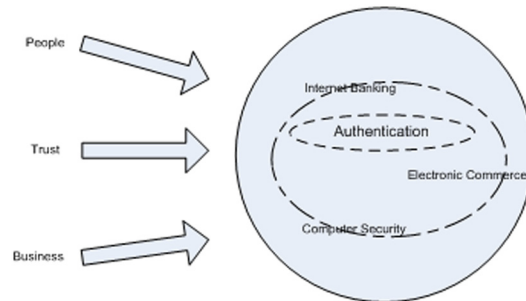
## INTRODUCTION

Global Internet users exceeded 2,267 million people in December 2011 (IWS, 2012), offering a huge new market for Internet-based services such as Internet banking. Since the new millennium, Internet banking has experienced explosive growth in many countries and has transformed traditional banking practices. By offering Internet banking services, traditional financial institutions seek to lower operational costs, improve consumer banking services, retain consumers and expand their share of customers. Internet based banks can operate at an expense ratio of 15-20% compared to 50-60% for the average bank (Booz, Allen, & Hamilton, 1997). Thus, by encouraging customers to use the Internet for banking transactions, banks would save considerable operating costs.

In the new banking environment, Internet banking is increasingly managed as an operational activity and an important component of a multi-channelled strategy. However, the Internet is an open environment. Online applications or technologies are typically exposed to security threats such as worms, crackers, viruses, spoofing, and password-sniffing. According to Sathye (1999), in Australia the main obstacle of Internet banking adoption is the security concern and the lack of awareness and benefit of the system.

Security concerns in Internet banking include threats made through network and data transactions or authentication unauthorized account access due to authentication failure. Perceived security, then is the “customers’ perception of the degree of protection against these threats” (Yousafzai, Pallister, & Foxall, 2003). Internet banking and the issues surrounding authentication, which is the mechanism at the heart of e-commerce security, is shown in Figure 1. The diagram presents the implementation of appropriate authentication mechanisms to ensure an adequate level of trust between the parties conducting the transaction.

Figure 1. Implementation of appropriate authentication mechanisms



Customers are apprehensive about the security of their personal financial information that could be accessed via the Internet. The need for security has already been recognized within the electronic banking community and a number of technologies have been developed to secure electronic transactions. The most common approaches used to secure current online transactions are the incorporation of the 128-bit RSA encryption key technology to Web browsers the use of digital certificates and firewalls.

This study will examine the key factors influencing consumer adoption of Internet banking. To identify the slow growth trend of Internet banking adoption in Malaysia, a number of studies have been conducted in Malaysia and other countries. Suganthi, Balachandher, and Balachandran (2001) explored the adoption of Internet banking in Malaysia and determined that it was slow due to factors such as security, consumer awareness, ease of use, accessibility, reluctance to change, preference for personalized services and cost of adopting the innovation. Sathye (1999) identified security concerns and lack of awareness about Internet banking as the main obstacles to the adoption of Internet Banking in Australia. Furthermore, the study found that Australian consumers were not adopting Internet banking because they were concerned about the safety and security of transactions over the Internet.

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