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Acceptance of technology, related factors in use of off branch e-banking: an Indian case study

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ABSTRACT

The purpose of this paper is to evaluate and investigate as to why off branch e-banking in India is not accepted to the extent as it is in advanced countries. Despite the benefits of off branch electronic banking, growth in electronic banking in India is still below expectation. Various literature reports indicate that the users are uncertain and indecisive to accept and use the system. It is felt that the growth of banking will much depend on use of off branch electronic banking rather than traditional banking. This study integrates constructs from the technology acceptance model (TAM), diffusions of innovation (DOI) model and trust theory models. Data were collected through survey and analyzed using multiple regression technique. The result establishes that factors namely trust on technology, trust on bank, perceived ease of use, perceived usefulness, complexity are the factors that influence customer significantly to use off branch e-banking in India whereas factors like perceived risk was insignificant. Studies also establish importance of these factors in order of trust in technology, perceived ease of use, perceived usefulness, trust on bank and complexity where trust on technology being the most important factor. Implications of this study for research and practice are presented.

1. Introduction

Technology has changed the way we used to work in our life, the way we used to do business. Today banks use various electronic channel mainly internet, intranet, VPN network to establish connectivity for delivery of service to retail customer. Similarly customers have PC, telephone, mobile, palmtop, ATM for transacting with bank. Growth through physical banking is limited.

Faster growth is possible through off branch electronic banking. Productivity of Indian bank is estimated to be only 12% of the US productivity level, though it has the potential to reach up to 90%. This productivity gap between the Indian banks and the US banks has been attributed to factors like low usage of technology based new channels of off branch electronic banking such as internet, mobile, ATM banking and call center; inadequate technological automations besides other factors. While usage of electronic banking has grown, it is much below expected level due to lack of acceptance by the customer. Lack of user acceptance has long been an impediment to the success of any new technology. It is observed that non-users are much more service conscious and do not trust financial transactions made via internet channels (Rotchanakitumnuai & Speece, 2003). It is claimed that the electronic banking is not living up to the hype (Weeldreyer, 2002). Besides highly publicized cases involving major security and privacy failures might have contributed to the lack of acceptance of technology based e-banking.

To increase in customer's preference in electronic banking (internet/ATM/mobile) in India, an attempt has been made in this research to find out possible attributes for accepting the technology by the customer.

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2. Literature review

What causes people to accept or reject information technology? There are several research that are conducted to find an answer. One of the pioneer works established in this area is technology acceptance model or TAM (Davis, Bagozzi, & Warshaw, 1989). TAM has become well-established as a robust, powerful and parsimonious model for predicting user acceptance.

This basic argument of TAM is based on theory reasoned action (TRA) by researcher M. Fishbein and I. Ajzen (1975 & 1980). Ajzen and Fishbein (1980) proposed the theory of reasoned action to explain when attitudes will likely predict behavior. The crucial aspects of the theory (see also Fishbein & Ajzen, 1975) are that intentions causally determine behavior and that intentions in turn are caused by the joint influences of attitudes toward the behavior and subjective norms. In the components of TRA are three general constructs: behavioral intention (BI), attitude (A), and subjective norm (SN).

TRA suggests that a person's behavioral intention depends on the person's attitude about the behavior and subjective norms (BI = A + SN). In general, tests of the model support these causal connections. There is much evidence that intentions predict behavior (see Ajzen & Fishbein, 1977) and that attitudes and subjective norms predict intentions (e.g., Brinberg, 1979; Pagel & Davidson, 1984).

In its simplest form, the TRA can be expressed as the following mathematical problems:

BI	(AB)W1 + (SN) W2
BI	behavioral intention
(AB)	one's attitude toward performing the behavior
W	empirically derived weights
SN	one's subjective norm related to performing the behavior

(Source: Hale, 2003).

2.1. Process

As a behavioral process, an expanded TRA flow model can be expressed as follows (Fig. 1):

The major building blocks of the TRA model are salient beliefs, which are used to ascertain attitudes, consequently determining intentions and behavior. TRA has been successfully applied in consumer behavior, technology acceptance and system use, and a variety of instances of human behavior.

Based on the theory reasoned action (TRA) and the theory of planned behavior (TPB), Fred D. Davis has developed his technology acceptance model (TAM). He tried to explain that the lack of user acceptance has long been an impediment to the success of new information systems. TAM specifies the causal relationship between the system design features, perceived usefulness, perceived ease of use, attitude toward using and actual usage behavior. Perceived usefulness (PU) and perceived ease of use (PEOU) prior use-related beliefs affects IT adoption. Numerous studies and its empirical findings have established that TAM consistently explains a substantial proportion (typically 40%) in usage intentions and behavioral action and TAM placed favorably in comparison to alternate models such as the theory of reasoned action (TRA) and the theory of planned behavior (TPB). (Fig. 2)

<table>
<tr><td>Belief toward an outcome</td><td rowspan="2">Evaluation of the outcome</td><td rowspan="5">Attitude</td><td rowspan="5">Behavior</td></tr>
<tr><td>Attitude</td></tr>
<tr><td>Beliefs of what others think</td><td rowspan="3">Subjective norm</td></tr>
<tr><td>What experts think</td></tr>
<tr><td>Motivation to comply with others</td></tr>
</table>

(Source: Ajzen, 1980)

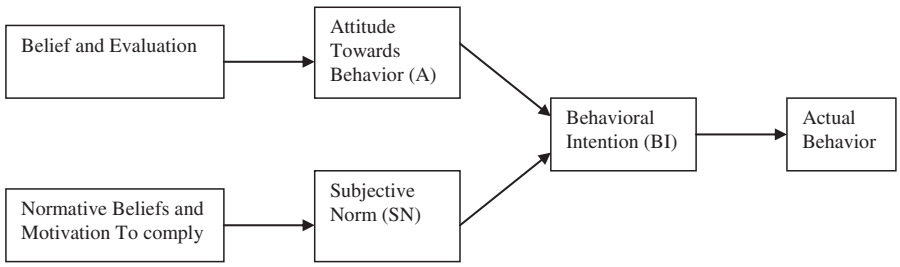

Fig. 1. Theory of reasoned action.