

## Chapter 16

# Interplay of Technology and Customer Value Dynamics in Banking Industry: Analytical Construct for Measuring Growth and Performance

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### ABSTRACT

*This chapter attempts to critically examine the available literature on the subject, discuss a model that provides a framework for analyzing the variables associated with customer value, and to identify potential research areas. The chapter argues through a set of linear equations that maximizing customer value which is interdependent factor for technology adoption and profit optimization in the banks need to be backed with appropriate economic parameters for attaining competitive efficiency and optimizing profit. The framework of the construct is laid on the theory of competitive advantage and customer lifetime value, so as to maximize the potential of the organization and all its subsystems to create and sustain satisfied customers. The theoretical impetus from new technologies in banking services such as mobile banking in the North American region and discusses the technology led marketing process towards optimizing profit have been discussed in this chapter. The discussion in the paper also analyzes the main criteria for successful internet-banking strategy and brings out benefits of e-banking from the point of view of banks, their technology and customer values and tentatively concludes that there is increasing returns to scale in the bank services in relation to the banking products, new technology and customer value.*

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## **INTRODUCTION**

The new information technology is becoming an important factor in the future development of financial services industry, and especially banking industry. The developments information and communication technology have significantly contributed to the exponential growth and profits of the financial institutions worldwide. This evolution had transformed the way banks deliver their services, using technologies such as automated teller machines, phones, the Internet, credit cards, and electronic cash. However, banks face a number of important questions on strategies for deriving full advantage of new technology opportunities and tracking electronic development changes affecting interactions with the customers.

In general terms, increasing convenience is a way of raising consumers' surplus provided new technology is adopted by the banks in order to offer convenience to the customers may be through an electronic transaction as a substitute for a trip to the branch. The technology based services imply different combinations of accessibility attributes (time, distance, and search costs), ease of use and price. Another factor in determining the magnitude of the surplus that the bank can seize is the relative importance of cross-selling. The bundle of services provided electronically is usually not the same as the one available at a branch. For this reason new technology based banking services with high customer value may offer better service conditions to harmonize the flow of information and services across the spatial and temporal dimensions.

The following sections of the paper will critically examine the available recent literature on this subject and present an analytical framework to measure the intrinsic contribution of various attributes related to technology and customer value in banking services. The construct of the measure is described through liner equations for technology, customer value and their symbiotic relationship followed by the general discussion on the sub-models. The locus of the model has been placed on the subsets of technology adoption and customer value as a profit driver in the banking industry.

## **REVIEW OF LITERATURE**

### **Electronic Banking vs. Conventional Wisdom**

The maxims of technology spread in the operations of financial institutes may have relational effect with the size and volume of operations of the organization. Whenever the innovation is initially introduced, large banks have an advantage to adopt it first and enjoy further growth of size. Over time, as the innovation diffuses into smaller banks, the aggregate bank size distribution increases stochastically towards a new steady state. Applying the theory to a panel study of internet banking diffusion across 50 US states, it has been observed that technological, economic and institutional factors largely govern the transaction process supported with technology. The empirical findings disentangle the interrelationship between internet banking adoption and growth of average bank size, and explain the variation of diffusion rates across geographic regions (Sullivan & Wang, 2005). Technology in banking industry also has cost implications which lead to slow down the adaptation process in many countries. The effect of technical change on the costs of banking firms operating in Central and Eastern European countries has been studied using Fourier - flexible cost function specification for the period 1995–2002. A common cost frontier with country-specific variables is employed in order to take into account the macro-economic and regulatory conditions that vary over country and time. The findings of the study reveal

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