



**Chapter IV**

**Information Technology  
Spending Association with  
Organizational Productivity  
and Performance: A Study of  
the Mexican Banking  
Industry, 1982–1992**

Carlos J. Navarrete  
California State Polytechnic University, USA

James B. Pick  
University of Redlands, USA

*This chapter examines the relationship between IT expenditure and bank profitability, efficiency, productivity, and performance for Mexican banks. The principal research method is correlation analysis between IT expenditure and four bank performance indices: a profitability index that combines bank profits, income, operational cost, and financial cost; a performance index that includes credit and bank income market share; a productivity index consisting of the number of employees, branches, and managers; and an efficiency index that includes banks' operational cost and income. The unit of*

*analysis is the firm. The data are from the 18 banks comprising the Mexican banking industry from 1982–1992, when Mexico’s banks were owned by the federal government. The study’s interpretations are supported by interviews with four bank CIOs and a CEO, in office during the period. The main findings are that bank IT expenditure ratio is positively correlated to bank performance and productivity indices, whereas IT expenditure is not correlated with bank efficiency or profitability indices. There are fluctuations in the strength of correlation during the 11-year period, which are explained. The chapter results not only reject the productivity paradox but also provide insights to explain the paradox and IT contribution to the firm performance.*

## INTRODUCTION

In the early 1990s, the “productivity paradox” triggered a notable academic effort to study the impact of IT on national economies, industrial sectors, firms, and individuals. Taking advantage of the Mexican government’s 11-year ownership of the banking industry, this chapter examines whether or not IT spending contributes to the productivity and performance of organizations. The federal government’s ownership of Mexican commercial banks during the period from 1982 to 1992 offered an opportunity to empirically study the productivity paradox. During this eleven-year period, each bank in Mexico was required to present its information technology budget to the federal government’s Finance and Planning Office. This policy requirement had the following implications:

- Information about IT expenditures was available for all commercial banks.
- Banks used the same IT definitions and budgetary practices and procedures.
- The result was a consistent longitudinal data set on IT expenditures that was not available in Mexico before or since this era.

The chapter’s objective is to present an empirical study of the association between IT spending and the productivity and performance of organizations. Specifically, the project conducts an empirical study:

- Of the productivity paradox
- With a homogeneous definition of IT
- Using an ex-post ratio methodology
- Regarding the productivity paradox for an industry in a developing country
- Using longitudinal data for 11 years

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