

Chapter 1

Adoption of a New Technology: In Private and Public Organizations of Developing Countries

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ABSTRACT

This chapter explores the factors of technological adoption in public and private sectors in developing countries. Public organizations are under the control of government to serve the citizens of the country, and private companies are owned and controlled by private individuals or companies and attempt to earn profits. Generally, in developing countries, industry as private firms is smaller than public organizations, and they struggle with lots of challenges in adoption of acquired technologies from foreign owners. In this study, after reviewing existing studies, based on the Technology–Organization–Environment (TOE) framework, a relative comprehensive model is proposed and tested in both types of companies. Afterward, the importance of factors and sub-factors are evaluated by experts' viewpoints. The sample size is 200 selected by simple random sampling method. The results show that organizational factors in public organizations and environmental factors in private companies are very important.

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INTRODUCTION

Although the invention of a new technology is recognized as a single and radical event, the diffusion of the technology usually occurs as a continuous and rather a slow process. The adoption and diffusion of a new technology can be a root of the pace of economic growth and improvement of productivity. Thus, understanding the factors of diffusion/ adoption of a new technology is essential to follow appropriate scenarios to have technological change. What actually causes and affects the adoption of a new technology in an organization is still uncertain and controversial.

There are various viewpoints in this research area and among them; technology-organization-environment (TOE) framework is very common. The TOE framework determines three aspects of an enterprise's context that influence the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context. In the present study, several additional factors that influence the adoption of a new technology in private and public organizations in developing countries are identified and compared.

Public organizations are under control of a government to serve citizens of the country, and private companies are owned and controlled by private individuals or companies and attempt to earn profits. There are two types of public sector organizations, i.e. either a government fully finances them through revenues they raise by collecting taxes, duties, fees, or the government holds more than 51% of the total share capital of the company which comes under various ministries. In contrast, private sector companies are divided on the basis of sizes such as small and medium enterprises and large enterprises which are privately traded organizations. They can be created in two ways, i.e. either by the formation of a new enterprise or by the privatization of any public organizations. Regarding technological adoption, there are large differences across countries. Developing countries generally acquire imported technologies and they have challenges to choose appropriate technologies and then adopt them.

Since technology has given organizations the ability to hold and create new competitive advantages and improve business productivity, it has become an increasingly essential part of today's enterprises. The emergence of new technologies assures enterprises, even more, opportunities. Decision makers must know about technology adoption and in particular new technology adoption before making substantial investments, especially in the case of lack of budget. It is very complex to decide due to multitude factors involved in technology adoption. Besides, enterprises that are subject to considerable organizational changes are usually faced with a number of change obstacles.

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