


Chapter 24

The Productivity of SMEs in Mexico and Their Effect on Innovation: Using the Survey on Information Technologies and Communications 2013 (ENTIC)

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ABSTRACT

Small and medium enterprises (SMEs) in Mexico represent one of the main entities of economic activity that supports the bulk of the Mexican population. Using statistics as a fundamental tool for conducting studies in the economic, natural, health sciences, among other fields, allows us to have proactive foundations for decision making within companies by senior executives and in the public field by officials responsible for promoting the growth of the industry in our country. This chapter represents, under a statistical scheme, the use and disposition of Information and Communication Technologies (ICTs) as a tool to increase average productivity levels within companies and under the Cobb production function. The ICT impact is also determined.

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INTRODUCTION

In Mexico, the economic effects of the economic crisis suffered in 2008, as a result of excessive spending by Americans due to low interest rates, triggering an imbalance in the mortgage sector, is identified as the main cause of this crisis. For the country, the effects were evidenced in the real economy when our exports and remittances from the United States contracted, together with the reduction of confidence in the Mexican economy by entities that promoted the increase in R & D (Research and Development). From these consequences the economy seems to have consolidated its stagnation in different areas of the economic activity, such as: mining, electricity, construction, manufacturing, commerce, services, transportation and communications. These activities represent the sectors that mostly absorb the Economically Active Population (PEA: Population aged 15 and over) through small and medium enterprises (SMEs).

With regard to the income from oil exports for December 2015, these prices are down, due to pressure from the member countries of the Organization of Petroleum Exporting Countries (OPEC) to promote the supply of crude oil. If this trend continues for the fourth quarter of 2016, an oil surplus is expected (El Economista, 2015). All these factors that limit the dynamism of the Mexican economy cause the deepening of the weakening of economic activities, negatively impacting the activities carried out by SMEs in the quest to absorb as much of the EAP as possible.

One of the challenges for Mexican companies is to be at the forefront of current technological systems. Mexico as a developing economy is subject to the imitation of technologies from central countries such as the United States, Germany, Japan, France and the United Kingdom (G5). As Myro points out in 2010: in economies with a low level of development, [...], technical progress should be more based on imitation than on one's own technological effort, so that cases such as Mexico's policies on technological innovation should focus on imitation to achieve the technical progress sought by SMEs in our country.

This is how Mexico bases its innovative activity through reactive strategies that follow and imitate organizations. Pioneer nations such as Germany, Japan, the United States, among other developed nations, follow reactive strategies, since they are pioneers in technological innovations. Among the main results that Mexico has in terms of Science, Technology and Industry that was carried out by the Organization for Economic Cooperation and Development (OECD) in 2013, are summarized those:

- A. Mexico suffers the consequences of a weak innovation environment, and investment in science and technology remains at a low level by OECD standards.
- B. Among the main obstacles are: patterns of industrial specialization, high prevalence of micro-enterprises, skill gaps and an ICT infrastructure insufficiently developed and high cost.
- C. Linkages between the research base and the underdeveloped economy, which translates into few scientific publications (OECD, 2013).

These characteristics, which currently prevail in conjunction with the low quality of educational services, make it difficult to build a solid technological base in the much sought-after technical progress, even though imitation. In this same report, it is mentioned that Mexico also faces a series of challenges due to the weaknesses of its ICT infrastructure, which include low penetration of broadband (both fixed and wireless), low average speeds of broadband connection and high prices (OECD, 2013).

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