Chapter III
Information Technology Usage in Maquila Enterprises

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ABSTRACT

The build-up of export-oriented companies since 1990s on the Mexico-USA border, and their recent decline, is no surprise to many policy analysts. The focus on the use of low-wage employees, neglecting skills, and infrastructure creation was doomed to fail. Much of the Mexican maquila operations and jobs have gone to China and other low-wage countries. Are maquiladoras technologically competent to ward-off competitive forces from China and other parts of the world? This chapter presents an exploratory study of IT usage and managerial perceptions of IT-related costs and benefits in maquiladoras. The relevant data was gathered through a survey questionnaire. The results show that IT had a positive impact on maquila business performance. These findings will be useful to managers in assessing their organization and taking corrective actions to become further competitive.

INTRODUCTION

In response to competitions, multi-nationals have taken advantages of cheaper labor and government incentives in locating production facilities. Especially, US based multinational companies benefited from NAFTA agreement and moved production from USA to Mexico’s maquila region. Mexico’s cheap labor market was the main incentive, but recently these companies realized that the availability of IT skills should also have been considered. One should be aware that, at a global level, IT has changed the business perspectives and practices for ever; the manifestation of which is IT-enabled or web-enabled
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business, e-supply chain, e-collaboration, etc. From policy makers view point, it is imperative to decipher the overall business environment (economic, technical, social and political) in a foreign country before making long term business decisions. Given the IT focus of this chapter, the authors argue that policy makers must understand the complexity in making judgment regarding the IT infrastructure in a given country, and how IT (and its many facets) plays into the overall business decision.

The Global Information Technology Report (Dutta, Lanvin and Paua, 2003) provided a means to combine various facets of IT and building a framework for comprehensive assessment of IT readiness for a country. The report used both quantitative data and qualitative information in measuring a readiness index for each of 82 major economies of the World. As defined in the report, the Networked Readiness Index (NRI) is an aggregated measure of the potential and degree of preparation of a nation within its encompassing environment to participate in the Networked World. Nations could be ranked on the basis of the numerical value of the index, and compared among each other with a view to developing IT policies for the future. The Index is a composite of three components: the environment for ICT (information and communication technologies) offered by a given country; the networked readiness of stakeholders (individuals, business, and government) to use ICT; and finally, the network usage of ICT by the stakeholders. As expected, the ranking between the US and Mexico differs significantly in all indexes (see Table 1). A wide gap that exists between the two countries in IT environment, readiness and usage, and this might indicate that Mexico might not be a place for US companies to develop business ties. In reality, however, US companies established strong presence in Mexico, particularly in the border region. In the past decade Mexico surpassed Japan to become the US’s second largest trading partner (Sargent and Matthews, 2003).

As the IT environment, readiness and usage between the US and Mexico businesses differ widely, how Mexico’s maquiladoras are managing IT related issues with their business partners in the USA? In the literature, however, very little has been found on the effect of IT on operational, technological and management issues in maquiladoras. Thus, to address this gap in the literature, the main objective of this research has been to study maquiladoras and present a comprehensive view of their IT-enabled operational and business practices, and perceptions of management.

The survey methodology was used in this research. First, an extensive literature review was conducted to identify the factors supporting and inhibiting the growth of maquila businesses. Secondly, based on the literature review and personal experiences of the authors with maquila businesses, a questionnaire was designed and distributed among the maquiladoras. The survey was intended to gather information on such things as plant IT usage, quality and costs of IT, overall IT benefits to plants, etc. Finally, the survey responses were analyzed and presented in this chapter.

Table 1. Network readiness rank (Source: Dutta, Lanvin and Paua, 2003)

<table>
<thead>
<tr>
<th></th>
<th>NRI Rank</th>
<th>Environment Component Index</th>
<th>Readiness Component Index</th>
<th>Usage Component Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
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<td>Mexico</td>
<td>47</td>
<td>60</td>
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<td>Canada</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>10</td>
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</tbody>
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