

Chapter 3

The Information System Strategies of MNC Affiliates: A Technology–Organization–Environment Analysis

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ABSTRACT

This article applies a technology-organization-environment framework to evaluate the determinants of the global information systems (GIS) strategies of foreign affiliates. The results indicate that IT maturity, parent resource dependency, cultural distance, restrictive regulations, and local competition are significant determinants of GIS strategy. We also find that the integration-responsiveness model can be applied to explain GIS strategies and their implementation. These findings provide additional insight into the complex relationship between headquarters and affiliates in GIS management. We conclude by discussing the implications of our findings for both research and practice.

INTRODUCTION

Today's globalized business environment has motivated multinational corporations (MNCs) to establish affiliates in foreign markets to achieve economies of scale and critical mass, reduce risk, and facilitate effective resource sharing (Neo, 1991). This means that MNCs must rely on information technology (IT) to manage, control, and plan their operations to compete effectively on a

global level. Although many MNCs have global business strategies to guide their expansion into foreign markets, few have corresponding global information systems (GIS) strategies, despite how critical they are to the coordination and integration of worldwide business operations (Karimi & Konsynski, 1991; Lai, 2001; Lai & Wong, 2003). With the increasingly widespread use of international networks and global databases, information is now moved and shared globally,

with the result that GIS have become a prime source of competitive advantage (Grover, Segars, & Durand, 1994).

Over the last decade, many MNCs have adopted enterprise resource planning (ERP) systems to integrate their worldwide business functions, including production, planning, purchasing, manufacturing, sales, distribution, accounting, and customer service. These ERP systems have emerged as complete business software systems that, ideally, facilitate enterprise-wide integration of information by connecting MNC headquarters, affiliates, and partners worldwide without geographical restrictions (Sheu, Yen, & Krumwiede, 2003). In practice, however, ERP implementation is complex and has a low success rate of 10% (Zhang, Lee, Huang, Zhang, & Huang, 2005). ERP success is even harder to achieve when MNCs and affiliates must deal with cultural issues in their business operations (Dar & Balakrishnana, 2006). Considering that most ERP systems have been developed in Europe and North America and have built-in value bias reflecting Western cultures, foreign affiliates operating in China, for example, often find it hard to accept them (Xue, Liang, Boulton, & Snyder, 2005). Consequently, they turn to domestic ERP systems to find a 'fit' between ERP functionality and business culture (Liang, Xue, Boulton, & Byrd, 2004; Xue et al., 2005; Sheu, *et al.*, 2005; Wang, 2006). This misalignment of ERP systems in supporting affiliate IS activity represents an unanticipated GIS issue that MNCs must tackle (Madapusi & D'Souza, 2005).

Not only has ERP been extensively implemented to support integrated GIS IT infrastructure and information architecture, but many MNCs have also outsourced or offshored part or all of their IT functions as a solution to their GIS strategies (Doh, 2005). Though outsourcing and offshoring offer MNCs benefits such as lower costs, improved productivity, higher quality, higher customer satisfaction, faster time to market (Dhar & Balakrishnan, 2006), and an ability to deal with

international conflicts and cultural differences (Lai, 2001), the effectiveness of these strategies in resolving GIS issues remains unexplored, particularly in the internal governance that ensures the offshore components strictly adhere to corporate worldwide procedures and rules.

Undoubtedly, globalization and IT advancement have already made GIS strategic design more + and offshoring, which have already shattered the traditional wisdom of GIS management, continue to reshape the IT architecture and information infrastructure that support GIS operation and management (Madapusi & D'Souza, 2005; Wilcocks & Feeny, 2006). Consequently, GIS strategy must be flexibly designed to overcome organizational, cultural, political, and political issues. The evolution of affiliates and their local IS strategies complicates GIS strategy design. In the past, it was commonly assumed that the GIS strategy of MNCs, including GIS cross-border activities, was decided at headquarters, with foreign affiliates being limited to decisions regarding local IS operating environments (Luo, 2003; Roth & O'Donnell, 1996). However, the increasing competitiveness in the global economy now requires MNCs to adopt more decentralized GIS strategies that can enable faster responses and more flexibility in local environments (Karimi & Konsynski, 1991; Lai & Floyd, 1998; Rosenzweig & Nohria, 1994). This development has drastically redefined the role of foreign affiliates in GIS management, which now encompasses the responsibility for developing individual information technology (IT) capacities appropriate for the original and distinctive markets in which they operate (Papanastassiou & Pearce, 1997). In other words, foreign affiliates now have the option to build up technological capacity within their own operations or to collaborate with other affiliates or headquarters to attain a more integrated IT capability (Lai & Wong, 2003). Many foreign affiliates go through creative transitions in which local environments and IT processing needs increasingly differentiate their positions

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