Chapter 3

Information Technology for Relational Business Ecosystems: A Case Study in the Brazilian Engineering Industry

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This article presents a framework to integrate effectively different information technologies in order to coordinate a relational business ecosystem, an innovative business model. The information technologies needed to create this new business environment are presented, as well as an integrated model based on a technology-service-process-production taxonomy. A case study addressing a major engineering company in Brazil, now playing the role of an integrator within a relational business ecosystem is presented in order to validate the proposed model. Some conclusions in this realm are presented addressing the main obstacles and hurdles to accomplish a relational business ecosystem as well as the solutions to overcome them, so as to make the findings and concerns applicable to other countries.

OBJECTIVES

In 1994, the Sloan School of Management at MIT inaugurated a multi-year research and education initiative called “Inventing the Organizations of the 21st Century”, headed by Thomas Malone, Director, Center for Coordination Science. One of the key activities of this initiative has been developing a series of coherent scenarios of possible future organizations. The Scenario Working Group consid-
ered a wide variety of possible driving forces, major uncertainties, and logics that might shape 21st century organizations. Two scenarios were then created addressing the size and the *modus-operandi* of the future organizations: “Small Companies, Large Networks”, as the ones found in Northern Italy (Textile Production in the Prato region of Italy), and “Virtual Countries”, as more mergers and acquisitions are turning up worldwide (e.g., Exxon and Mobil) (Laubacher & Malone, 1997).

Nowadays, one of the greatest challenges of management is to deal with new organizational forms, i.e., the ones that challenge traditional notions of structure, coordination and control, such as the companies derived from the “Small Companies, Large Networks” scenario. When all the tasks and processes of an enterprise are centralized in just one company, it is far from difficult to organize and manage the knowledge accrued from a project. However, a lot of different players can be now involved in major projects.


Notwithstanding and very important in their realm, this research just tap on how to coordinate an enterprise encompassing a lot of different companies, in different places, with different - although important - duties. It is paramount to understand how the information and communication technologies can leverage and strengthen the coordination skills among the players of a major project involving a lot of subcontractors, suppliers, and other firms.

A relational business ecosystem is a *quasi-* firm created through digital links among several companies, in such a way that it is almost impossible to know exactly its boundaries (Keen, 1991). A relational business ecosystem is also independent of its organizational structure, as each node has its own structure that can be changed without interfering in other nodes’ structures.

“The organization is its formal structure” and “Structure follows strategy” (Chandler, 1962) are two hypotheses challenged by relational business ecosystem that wisely use information technologies.

The main objective of this paper is to integrate effectively different information technologies in a relational business ecosystem to adequately coordinate a major project or enterprise, and present how this can actually be done presenting a case study addressing the Brazilian engineering realm.

From this case study, the paper aims to discuss some issues and concerns and see how these findings are generalizable from Brazil to other countries in a global context of knowledge management.
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