

Organizing Global IS Management to Meet Competitive Challenges— Experiences from the Pharmaceutical Industry

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Despite the widely acknowledged importance information technology plays in multinational corporations, many companies lack an understanding of when and how to (re)organize global IS management. The issues of timing and organization of global IS management, however, seem to be of utmost importance in a company's attempt to implement a new, global business strategy. Based on three case studies from the pharmaceutical industry, this paper analyzes the sequence in which business strategy, organizational structure and global IS strategy/structure should be designed to respond to changes in the competitive environment. Furthermore, it argues that new ways of designing IS management in MNC might be needed to meet the information processing requirements resulting from global business strategies. The paper concludes with suggestions for future research.

The relationship between an organization's environment, business strategy and organizational structure on the one hand, and IS strategy and structure on the other hand, has been widely discussed in literature. However, as the competitive environment in most industries has changed dramatically over the last few years and the companies adopt new strategies and structures, more research is required as these changes have not been sufficiently incorporated in the research yet.

Over the last few years most industries have become multinational industries. Globalization forces many multinational corporations (MNC) to seek new

ways to manage their worldwide operations. In order to achieve economies of global scale, to develop products for worldwide sale, and to provide high quality service to customers around the world, careful coordination of activities across national borders is required (Welge/Böttcher, 1991; Macharzina, 1992).

Despite the widely acknowledged importance information technology has in MNC (Senn, 1994), many companies lack the understanding of when and how to (re)organize global IS management. Although some anecdotal evidence exists on the role IT can play in global firms (Reck, 1989, Runyan, 1989, Carlyle, 1990), the IS strategies and structures needed to support the multinational firm's global business are yet to be systematically investigated. Several authors suggest contingency approaches describing IS strategies/structures that fit certain types of business strategy and organizational structure. But, as Earl/Feeny put it, "the resolution is not as straight forward as speculative practitioner and academic articles suggest" (1992, p. 20). Furthermore, the timing of adapting IS strategy and structure to the new business strategy and organizational structure appears to play an important role but has hardly been considered in literature.

This paper addresses the issue of organizing global IS management to meet the new competitive challenges based on case studies from the pharmaceutical industry. The analysis focuses on the sequence in which changes in business and IS strategy and structure are implemented and the way IS management is organized. The

Manuscript originally submitted September 19, 1994; Revised December 5, 1994; Accepted December 6, 1994.

next chapter presents the background and motivation of the study. After discussing the methodology, the case studies are presented and analyzed. The paper concludes with suggestions for future investigations of global IS management.

Background and Motivation

A number of authors have proposed contingency approaches for global IS management (Cheung/Burns, 1994). They assume that IS strategy and structure in MNC must fit business strategy and organizational structure for the companies to be successful (Reck, 1989; Thompson/Faigle/Short, 1989; Ives/Jarvenpaa, 1991; Karimi/Konsynski, 1991; Alavi/Young, 1992). As Alavi and Young (1992, p. 501) point out “the fundamental challenge is to manipulate the activities of the information technology organization to define, within economic and organizational constraints, activities and technologies that are the most responsive to the requirements of the business strategy and the unique characteristics of the international environment.”

Based on the well-known contingency model for designing MNCs provided by Bartlett/Goshal (1990), Ives/Jarvenpaa (1991) distinguish four business strategies for MNC: The *multinational strategy* which focuses on local responsiveness, the *global strategy* which is driven by the attempt to gain competitive advantage through global efficiency, the *international strategy* which builds on innovation, and finally, the *transnational strategy* which is aimed at combining the advantages of the first three strategies. For these four business strategies they identify corresponding IS configurations. The multinational strategy is best supported by an *independent IS strategy* which gives the subsidiaries full autonomy for systems development and operations. The *headquarter driven strategy* focuses on strong centralization. Decisions are taken in the headquarter to ensure economies of scale. This best fits the global strategy. Under the *intellectual synergy strategy* the subsidiaries are given autonomy in systems development and operations. However, considerable information exchange takes place and experiences accumulated in other parts of the company are passed on. This approach is suitable for companies pursuing an international business strategy. The information processing requirements resulting from a transnational strategy are best met with an *integrated strategy* for IS management. This strategy focuses on a common worldwide IS architecture and joint decision-making, development, and implementation.

The contingency approach can be regarded as a first attempt to relating management of MNCs to issues of global IS management. However, several shortcomings should be considered (Schwarzer, 1994). The contingency approaches are based on the assumption that a company can be characterized by one business strategy/structure and one IS strategy/structure. Several authors remark, based on their experience in MNCs, that it is very unlikely that any one strategy will suffice in an MNC to satisfy the various functions appropriately (Ward, 1987; Reimitz, 1990; Earl/Feeny, 1992). Depending on the criticality and stage of development of the applications in the different departments, various strategies will be more or less appropriate. This notion is also expressed by Griese (1990) and Neo (1991) who suggest that in a global environment the chances of gaining strategic advantage through the use of IT should be checked for each of the activities in Porter’s value chain separately.

As Earl/Feeny (1992) point out, the often cited classifications of business and IS strategies are too general to provide an in-depth insight. Their case studies show that even though two companies follow the same business strategy, they are likely to have chosen different ways of organizing their business (Macharzina, 1993) and IS management. The contingency approaches cannot explain these differences as they propose that there is one best way of organizing. An issue that is mostly neglected is the question of timing the changes. Based on Chandler’s “structure follows strategy” paradigm (1962), the management literature stresses the sequence of changes in the environment – change in business strategy and finally change in organizational structure. The IS literature has stressed the importance of aligning IS strategy to business strategy, also expressed as deriving IS strategy from business strategy (Boynton/Zmud, 1984; Lederer/Putnam, 1986), implicitly assuming that business strategy has to be there first. Combining the thoughts of the management and IS literature the sequence shown in figure 1 can be expected.

Even though the contingency approaches stress the importance of matching organizational structure and IS structure, they do not provide any evidence in which sequence the match should be achieved. This question, however, seems to be of importance as critical voices question not only the structure follows strategy paradigm (Hall/Saias, 1980; Burgelman, 1983), but also the idea of deriving IS strategy one-way from business strategy (Earl, 1989; Krcmar, 1991). It therefore seems important to analyze the sequence and timing of the changes in business and IS strategy and structure.

At the moment, the existing body of knowledge in

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