THE ESSENTIAL COMPONENTS OF A VIRTUAL TRANSNATIONAL ORGANIZATION

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ABSTRACT

This study investigates the dynamic effect of information technology (IT) infusion into global business. It is argued that information technology could enhance organizational competitiveness. We have proposed a set of IT components that can meet the needs of a transnational organization. The components are: Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Customer Relations Management (CRM), E-business, Extranet, Intranet, and Groupware. Integration of these components and applications can enrich global businesses and help them to reach at competitive positions in the global market. Virtual organization as a strategic organizational structure is a solution for global business. For global businesses to maintain above average returns and to sustain their competitive positions, integration of technology into their business processes is the solution for competitiveness.

Keywords: Organizational structure, business strategies, virtual organization, transnational enterprise.

INTRODUCTION

Information Technology (IT) is playing an ever-increasing role in supporting business strategies and transformation, with e-business lending new visibility to technology's strategic role. Early studies (7 have found that changing market dynamics compel many enterprises to rethink their organizational structure and the use of technology (13). In the past, "economies of scale" produced benefits by offering standardized products to stable and large consumer markets (14). More recent works have paid considerable attention to information technology as a means to optimize well defined, discretely functioning areas within the enterprise (18). Information specialists created and maintained application software to automate certain business functions. These systems were designed to take snapshots of business operations. Each snapshot provided data for hierarchical control, local decision-making, and financial accounting. According to Hirt and Swanson (9), the downsides to these systems were cost overruns, slow response times, a painfully awkward user interface, and an inability to cope with change. Today, by contrast, companies must design their products and services better, faster, and cheaper. As noted by Barlett and Goshal (1) and Bento (2), for transnational businesses to compete, they must adopt a business-process strategy and global supply chain perspective in order to allow "business optimization" to shape their processes into adaptable structures that respond to customer demands.

While the mandate for global enterprise solutions is widely acknowledged, the structure of a perfect global organization is unclear. As noted by Davenport (4), in order for organizations to design an effective global enterprise, as a whole, management needs to understand various organizational structures such as virtual organizations, T-form organizations, learning organizations, temporary organizations, and networked or metrics organizations. These structures lead an organization to prosper through the integration of high technology into its existing platform.

The purpose of this study is to draw on Hedlung and Rolander's (7) proposal that information technology should be incorporated in the structural design of transnational organizations. The study will show that virtual organizations are a viable model for transnational organizations. The role of information technology in the virtual transnational global organization will be discussed. Emphasis will be placed on how specific technologies and system components will add value to meeting the criteria for effective and efficient global competition. This study will conclude by making recommendations for the effective use of information technology components and application as tool for global competitiveness.

IMPACT OF IT ON ORGANIZATIONAL STRUCTURE

Information Technology has created a highly competitive business environment for organizations. This technology includes digital communication networks, computers, software and other related information technologies. Economic, societal and technological factors have created a highly competitive business environment in which customers are becoming increasingly powerful. These factors change so quickly – sometimes in an unpredictable manner— James Strong, the CEO of Qantas (11) once said, "The lesson we have learned is how quickly things can change. You have to be prepared to move fast when the situation demands."

Companies need to react quickly to both the problems and the opportunities resulting from the new business environment. For global businesses to compete effectively, they must impose daunting coordination between companies that seek to compete successfully (18). As noted by Bartlett and Goshal (1), transnational enterprises could be contrasted with organizations implementing global, multinational, international and transnational strategies. Survival of such global companies will depend on how transnational organizations respond to a multiplicity of competitive challenges such as efficiency, critical response activities, and learning.

As noted by Deans and Kane (3), transnational organizations use *global strategies* when such organizations locate their headquarters in one country while operating in one or more other countries. Recent works have paid considerable attention to the fact that many domestic organizations adopted this approach in order to broaden their markets (1; 8; 7). Transnational organizations using this approach are operating in a centralized manner. As noted by Kalakota and Robinson (12), efficiency, obtained through economies of scale, is the key criterion of effectiveness that is sought by global organizations. Foreign firms such as Honda, Volvo, and Nissan have used this approach to expand their markets.

Hipple (8) noted that in a *multinational strategy*, national or regional operations are relatively autonomous and decentralized. The reason is to increase sensitivity to differences among the individual countries in which a multinational organization operates. Here, the major competitive issue is responsiveness to the local market. Adopting an international strategy means that such organizations will compete on a worldwide basis against other international organizations. It further establishes strategic linkages among countries in which it operates.

According to Hedlung and Rolander (7), firms will be more competitive if they can handle the challenges of global efficiency, effectiveness, local responsiveness, competence, and learning. See Table 1. Accomplishing these objectives require organizations to adopt a transnational strategy where each organizational activity is performed in a location where success could be achieved. For example, Chevron-Texaco Corporation has pursued this strategy in some of its strategic business units. Although corporation employees are located all over the world, yet, less than seven percent of its workforce is located at the nominal corporate headquarters in California. Light and Holland (16) noted that all of Chevron employees are linked electronically and can share knowledge relevant to major decisions. Chevron-Texaco transnational strategy promotes efficiency, responsiveness, competence and learning to technological innovations.

Table 1: Enterprise Strategies and Competitive Factors

Business Strategies	Competitive Factors
Global	Effectiveness and efficiency in the use of technology
Multinational	Responsiveness to technological innovations
International	Competence and learning to technological innovations
Transnational	Efficiency, critical response activities, learning

The transnational organizational strategy poses the greatest challenge for firms seeking to increase their global competitiveness (8). The main problem lies in the design of an organizational structure that is capable of being efficient, responsive, and can enable the transfer of knowledge across borders and locations (7). The solution to the problem of a transnational organization is to adopt a virtual organizational structure. In the following, we describe the characteristics of a virtual organization.

COMPONENTS OF A VIRTUAL TRANSNATIONAL ORGANIZATION

Davis (5) noted that IT is a key component in virtual transnational organizations. Flynn (6), Deans and Kane (3), and Bento (2), among others, found evidence that IT facilitates the coordination of loosely federated components, overcome the spatial and temporal barrier that characterizes conventional organization structures, and promotes flexibility. IT has the capacity to enable dramatic organizational transformation and to make traditional forms obsolete. The concern for business leaders will be to answer which information technology components can enable virtual transnational organizations to be competitive.

We propose a set of IT components that match the three basic criteria of a transnational organization, namely, critical responsive activities to technology, competence and efficiency in the use of technology, and learning in regards to technological breakthroughs and advances. The IT components are: Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Customer Relations Management (CRM), E-business, Extranet, Intranet, and Groupware. See Table 2. These components when incorporated in the business processes can help transnational organizations achieve high level of competence in the global market. Management may draw on the enabling technologies to respond to the needs of the transnational enterprise. As shown in

Table 2, whenever an IT component is suited to a business need, an asterisk is placed in the appropriate cell of the table. Blank cells indicate a less obvious match, but it is still conceivable that IT applications could contribute to meet the need of this category. For example, Enterprise Resource Planning (ERP) platform is shown to contributing efficiency, critical response activities, and learning capabilities, as explained below. Note also that all IT components contribute to the learning of technological advances.

Table 2: IT Components and Applications that Meet the Needs of a Transnational Enterprise

IT Components and Applications	Basic Criteria		
	Efficiency in the use of Technology	Critical Responsive Activities to Technological Breakthroughs	Learning to Technological Advances
Enterprise Resource Planning [ERP]	*	*	*
Supply Chain Management [SCM]	*	*	*
Customer Relationship Management [CRM]	*	*	*
E-business	*	*	*
Extranet		*	*
Intranet	*		*
Groupware	*		*

Enterprise Resource Planning (ERP)

ERP facilitates efficiency, responsiveness and learning. Davenport (4) explains ERP as a configurable information system platform that integrates information-based processes within and across functional areas of an organization. It enhances decision-making by providing managers and other employees with production, sales, and administrative information in a real-time environment — all connected from anywhere within the organization. Li (15) notes that ERP software enable companies to manage areas of their business operations such as product planning, parts purchasing, inventory maintenance, supplier interaction, customer service and order tracking. These systems dominate the information technology landscape of many companies in the global business. ERP platform enhances competitiveness as businesses compete in their respective domains. Implementation of an ERP platform will enable transnational organizations to compete successfully in the global economy.

Supply Chain Management (SCM)

Like ERP, supply chain management also facilitates efficiency, responsiveness, and learning in an organization. Markus and Tanis (18) define SCM as the integration of business activities through improved supply chain relationships to achieve a sustainable competitive advantage. Light et al. (17) noted that supply chain encompasses all activities associated with the flow and transformation of goods – from the raw materials to the finished product – up to the end-user's hand, as well as the associated information flows. If SCM is properly implemented by a transnational organization, it will help in the bid for global competitiveness.

Customer Relationship Management (CRM)

CRM facilitates efficiency, responsiveness, and learning. This technology applies a customer service approach that focuses on building a long-term and sustainable customer relationship that adds value both for the customer and the company. It recognizes that customers are the cores of a business and that a company's success depends on effective management of client-relationship. If CRM is properly implemented, it could enable transnational organizations in their competitive bids.

E-Business/E-Commerce

Transnational organizations implementing an e-commerce platform promote responsiveness, effectiveness and learning. E-commerce (EC), also known as e-business, can be described as the manner in which transactions take place over networks, mostly the Internet. It is the process of electronically buying and selling of goods, services, and information. Certain EC applications, such as buying and selling stocks on the Internet are growing very rapidly. In Korea, 70 percent of all stock-trading is conducted over the Internet. Electronic commerce is considered a primary means by which organizations may expand rapidly into high growth emerging markets of the world. The impact of EC is not just in the creation of Web-based corporations, it is the building of a new industrial world order. Electronic commerce can increase organizational responsiveness by notifying customer when new products of their interest become available, creating customized knowledge about customer habits, defining customer trends, and turning customer statistics into long-term customer relationship.

The banking industry is currently being reshaped by electronic commerce. Clients and customers of a bank are now able to conduct most of their financial businesses through a personal computer or a mobile system. M-commerce or mobile commerce is an evolving area where business is conducted in a wireless environment through mobile phones and computers. As transnational companies become more skilled in the use of the Internet, they will be able to pursue global electronic commerce more efficiently, saving important advertising, communication, and administrative costs. Transnational organizations that will embrace m-commerce platforms might enrich its competitive bid further in the global marketplace.

Extranets

Extranets (extended intranets) promote critical responsive activities and learning in an organization. These are secured networks, usually Internet-based, that allow business partners to access portions of each other's intranet. As extranets are based on Internet technology, they provide open and flexible platforms suitable for supply chain management. In most cases, an organization's customers and partners can use extranets to access account information and coordinate shipments of suppliers. The package delivery industry, which includes UPS, FedEx, and DHL, serves worldwide markets through extensive use of extranets. These companies promote responsiveness by giving customers access to the company's internal tracking system where a customer can obtain information about the status of their package on transit. Also by tracking customers' inquiries through the extranet, a firm can automatically acquire new knowledge about its customers' needs. The sophisticated technologies used by packing industry could enhance the competitiveness of a transnational organization.

Groupware

Groupware promotes responsiveness and learning in an organization. Multinational organizations and global teams are becoming norms for competitiveness. A challenge to organizational effectiveness is to recover the time lost as teams struggle with diversity and cultural problems. Groupware technology could serve as a solution to this problem. It integrates electronic messaging system with screen sharing, group scheduling, meeting support, group writing and other applications. These features support team leadership, facilitate group processes, and extend the team's technical and managerial competence. Groupware could enhance the competitive positions of a transnational organization. It is a primary enabler of dispersed work because it facilitates efficient and accurate sharing of ideas, streamlines processes, and makes parallel task execution possible. These features render a transnational team more time and cost effective. They also elevate group members' learning curve. Since teams are composed of experts in various specialties, the sharing of knowledge through groupware increase the overall level of team performance.

CONCLUSION

This study has argued that information technologies could enhance organizational competitiveness. We have proposed a set of IT components that could meet the needs of a transnational organization. Integration of these components and applications can enrich global businesses and help them to reach at competitive positions in the global market. Virtual organization as a strategic organizational structure is a solution for global business. For global businesses to maintain above average returns and to sustain their competitive positions, integration of technology into their business process is a strategy for competitiveness. The Web is having a broad and pervasive impact on the global economy. By replacing complex, expensive, and proprietary trading-partner solutions with simple, inexpensive, and open structure – IT can transform businesses into a vast marketplace. It can force companies to restructure themselves from top-to-bottom and to exploit the unprecedented economics of the market while reshaping entire business around online trading communities, transcending traditional domain, and national boundaries. Successful organizations view information technology as a vehicle to evolve in response to market changes.

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