

Strategic Decision Making in Global Supply Networks

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INTRODUCTION

Globalization has inexorably affected the economies of many nations in both the developed and developing world. As a consequence, national boundaries are becoming less important to the large, multinational corporations who now operate on a global scale.

Corporate global networks range from short term outsourcing contracts to long term investments in developing countries that offer low cost operations and/or the promise of future market expansion. Today the Internet and high-speed data networks enable knowledge tasks to be completed practically anywhere in the world, allowing companies in the developed world to achieve cost savings or simply stay competitive enough to survive by shifting work offshore (Saunders, 2003; Schultz, 2004). As a result, an increasing shift of work to low-cost countries will continue for the foreseeable future.

Global supply networks decisions such as supplier selection and distribution assignments are strategic decisions that involve medium to long term commitment. These decisions in turn affect the organization's future business structure, competitiveness and market value. In the literature there are numerous studies dealing with global supply network decisions in the context of mathematical modeling, risk assessment and conceptual strategic evaluations. The literature can be divided into two categories with respect to the application of tools that are used to analyze and model the corporate decision making processes. One stream of literature extensively utilizes operations research techniques to model the supply networks and assess the profitability of production (or service) operations on the basis of quantitative variables. The other stream of literature concentrates on intangible determinants and evaluates the drivers and consequences of global

operations by examining the business conditions, risk factors, opportunities and many other qualitative as well as quantitative variables. In the next sections, a conceptual framework will be developed to examine the structure, determinants, and outcomes of global operations. A broad review of the literature will be presented, and novel modeling approaches will be summarized while discussing the complexity of global supply network decisions and the necessity for integrated methodologies.

GLOBAL SUPPLY NETWORKS AND OUTSOURCING

The ever-increasing pace of information and communication technology allowed corporations to distribute their operations all over the world. Today the global supply network refers to a complex set of business relationships that consist of not only the distinct elements of the supply chain (i.e., supplier, distributor, and retailer) but also the operational divisions within a company, including accounting operations, human resources and customer service among others. The intense competition among many industries imposes pressure on corporations to elevate productivity and reduce costs by transferring activities to more efficient vendors that can add a competitive edge with their specialization. Offshore outsourcing (or simply "outsourcing") especially is a growing trend leading to further transnational distribution of corporate activities. Research indicates that, when well designed and well managed, outsourcing reduces operating costs, enhances competitive strategy, and enlarges shareholder value (Bryce & Useem, 1998).

There are many reasons for companies to distribute their operations either in the form of outsourcing to

different parties or by investments in different regions of the world. The primary objective is to reduce the costs of services and products by utilizing the low labor-rates in developing countries such as China and India. The initiative towards improving the focus of core competences such as R&D and market research also plays an important role. According to Ferrell (2003), and more than 800 executives in the United States and Europe think that cost savings are still a key outsourcing benefit, but the additional business controls generated by outsourcing are driving the trend to external providers.

The determinants of global supply network decisions can be divided into two interrelated classes in terms of the elements of competitiveness: cost competitiveness and organizational competitiveness.

Cost Competitiveness

Cost is usually the initial major determinant in global supply network decisions. The selection of supplier location, logistic structure, distribution network and many other components of decisions are based on the objective of minimizing the total cost. For a global supply network, the total cost accounts for the aggregation of product/service costs along with the costs of relocation, documentation and communication. Although in many cases, supply networks are designed based on calculations of projected variable and fixed costs, the actual practice of operations involves the hidden costs that are frequently overlooked. The cost of selecting a vendor, contracting costs, transfer costs and many other costs associated with organizational change and management are incurred over the lifetime of global operations. Vining and Globerman (1999) describe the cost of outsourcing as a function of three variables: Production costs, bargaining costs and opportunism costs, with the latter two being costs of governance. Bargaining costs include the costs arising from negotiating contract details, costs of negotiation changes to the contract in the post contract stage, the cost of monitoring whether performance is being adhered to by the other party, and the cost of disputes. Opportunism is defined as any behavior by a party to a transaction that endeavors to change the agreed terms of a transaction in its favor.

Therefore, the cost of a global supply chain should be perceived as the sum of foreseeable financial values

as well as the possible fees and expenditures that can emerge as a result of segmentation of business processes. To facilitate an increase in cost competitiveness, the strategic decisions on global supply networks should be based on a projection of complete cost values.

Organizational Competitiveness

Competitive advantage is the ability of a firm to outperform rivals on the primary performance goal: profitability (Grant, 2004). By this definition, an organization inevitably elevates its profitability, and therefore gains competitive advantage if the costs of products/services are lowered in comparison to the other existing players in the market. In addition to the cost advantage, in order to maintain competitiveness in the long run, an organization needs to differentiate itself relatively to its rivals. For many organizations, research and development activities are of the utmost importance in maintaining the core competence. Even in mature markets where there is little room for innovation, it is important to create new marketing ideas and achieve quality improvement to preserve market share. Organizations are able to focus on these core functions by transferring custom business processes, such as accounting and information systems, to specialized vendors around the world. On the other hand, other factors of competitiveness such as responsiveness, customer service, and flexibility may be adversely affected by the decentralization of operations and authority. The risk of intellectual property theft due to the multiplicity of vendors and the irregularity of protection laws is another area that underscores the importance of indefinable elements of supply chain decisions.

DECISION MODELS

Researchers and practitioners have investigated the performance, design and analysis of global supply networks and provided numerous decision models based on a diversity of methodologies. While incorporating the entire dynamics of the problem into one method is difficult, the majority of the work presented in the literature delineates promising schemes for superior strategic decisions in global supply networks.

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