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Enhancing the business-to-business supply chain: Insights from partitioning the supply-side

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Abstract

A market orientation has long been established as the key to success in supply chain management. A central concept of this orientation is market segmentation. The concept of market segmentation, however, has primarily been focused on the *demand* side of the supply chain; its potential application on the *supply* side has not thoroughly been addressed. This paper extends the purview of the concept behind segmentation by presenting the concept of "supply-side partitioning" to refer to the management of heterogeneities on the supplier side of the supply chain. Further, the concept of "transvectional alignment" is proposed for the purpose of simultaneously aligning market segments with appropriate suppliers at all levels of the supply chain by identifying, evaluating, and selecting supply groups that satisfy the demand function(s) of each segment. This paper discusses supply-side partitioning, includes a model for the supply chain utilizing transvectional alignment, and offers implications for the application of supply-side partitioning in the business-to-business marketspace.

Keywords: Supply-side; Segmentation; Business-to-business; Supply-side partitioning; Transvectional alignment

1. Introduction

(Sourcing and logistics is) "the darkest continent of business—the least exploited area of business for competitive advantage." Peter Drucker

During the last few decades there has been an explosion in the number of articles in the academic and trade literature discussing supply chain management (SCM) and espousing its role as a strategic component in business planning. Today, as more and more companies embrace the importance of an integrated network of firms that efficiently move materials and components through intermediate processing, to manufacturing, to finished goods, to intermediaries, and on to end users, SCM has become "a respected management science with a strong and growing body of theory, testable models, and empirical research" (Lancioni, Schau, & Smith, 2003 p.173). Further, the substantial benefits of SCM have been recognized in recent literature (e.g., Bowersox, Closs, & Cooper, 2002; Closs & Mollenkopf, 2003; Stank, Keller, & Closs, 2001), and many companies have invested heavily in supply chain process improvements (Farhoomand & Ng, 2000).

Perhaps one reason for these commitments is that the central themes of the SCM system are cost reduction and the creation of customer value. That is, effective SCM is buyer driven, beginning with an understanding of the buyer's needs and working backward from the end user through channel intermediaries, final, intermediate, and component manufacturer, to material suppliers. The focus on a market orientation has long been established as the key to success, not only in SCM but throughout all marketing processes. Combining a customer orientation with the ability to differentiate products and services is largely what separates modern marketing practice from the sales or production orientations of the past.

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Due to the widespread acceptance of the importance of a customer orientation not only to SCM but throughout all of marketing, it could be argued that there are few concepts of greater value or critical consequence to developing effective marketing strategies than the concept of market segmentation. Market segmentation is the very basis of a customer orientation because it is instrumental in refining a firm's offerings, pricing, communication, and distribution. Further, it facilitates the efficient utilization of a firm's resources, the positioning of its offerings, the building of long-term relationships, and the maximization of consumer satisfaction. Indeed, it has been documented that increased profitability and enhanced market share accrue to marketers who practice market segmentation and product differentiation while controlling costs (Fuller, O'Conor, & Rawlinson, 1993; Jaworski & Kohli, 1993; Narver & Slater, 1990).

While the role of market segmentation in a marketing orientation is intuitively simple, it nonetheless has had and continues to have a tremendous impact on marketing decisions. To a large extent, it has been used to simplify the complexity and heterogeneity of the demand side of the supply chain, so that marketing decisions can better be specified, organized and implemented. It is surprising, therefore, given the usefulness of market segmentation in fostering a customer orientation down-stream, at the demand end of the supply chain, that the literature largely has ignored the application of the concept up-stream, at the supplier end of the supply chain. That is, the concept has been defined and applied very narrowly in the past, because of this demand-side orientation. Yet, the potential for expansion of the concept to improve business-to-business performance in supply-side decisions could be considerable and there have been increasing calls for treating suppliers as customers (e.g., Sheth & Sharma, 1997), for better organizing suppliers (Gahbauer, 1998), and for better harnessing the enormous competitive advantage that can be derived from the supply side of the value chain.

The fundamental reason for segmenting consumer markets is the complexity that exists in the marketplace. This complexity is primarily due to the large number of consumers present and the varying characteristics of these consumers. The management of this complexity is a challenge to marketers, and they consequently need to analyze heterogeneities and homogeneities in the marketplace to better focus their marketing activities.

A similar situation arises up-channel in the supply chain in many B2B marketplaces. As technology makes products more complex, customers demand increasingly more customized offerings, accelerated product life cycles force firms to constantly develop new products and consequently seek new suppliers, and as hyper-competition in the marketplace demands increasing rates of product improvement, organizations are increasingly compelled to deal with more complexity in the supply chain, both in the number of suppliers and in their varying characteristics. For example, General Electric has approximately 30,000 suppliers (Moozakis, 2001), Boeing has approximately 20,406 (Wilhelm, 2001), Hitachi has approximately 13,000 suppliers, with access to another 50,000 through its E2open network (Spiegel, 2002), and General Motors has approximately 30,000 suppliers, with approximately 9000 members in its supply chain (Gould, 2000; North, 1999). Even though these firms consider their supply chains to be meeting their needs, the reality is that many managers "lament that although they know that their supply chains are riddled with waste and generate great dissatisfaction among customers, they don't know what to do about the problem" (Fisher, 1997, p. 116), and often fail to exploit the enormous competitive potential of the supply chain.

It is the purpose of this paper to improve the theoretical underpinnings of SCM by demonstrating the role that a systematic and scientific understanding of supply-side heterogeneities and homogeneities can play in supplier identification, evaluation, and selection in the supply chain. In so doing, a new orientation, using the concept of market segmentation, deemed "*supply-side partitioning*" is proposed. In contrast to the conceptualization of market segmentation (e.g., Dickson & Ginter, 1987; Smith, 1956), which is oriented toward dealing with heterogeneity on the demand side of the marketplace, supply-side partitioning focuses on heterogeneity on the supply side. This paper also advances a concept called "transvectional alignment," which suggests that supplier groups across the entire supply chain (consisting of raw material and component providers, intermediate processors, manufacturers, and buyers) aligned for the purpose of exchange, may be more appropriate for building long-term relationships and satisfying needs at different levels in the channel, than the single vector downstream focus usually associated with market segmentation.

The paper is organized as follows: The first section offers a review of the existing literature on segmentation and supply chain management. The next section proposes and defines several concepts needed for the development of a theoretical model of supply-side partitioning and transvectional alignment. Next, a theoretical model of supply-side partitioning and transvectional alignment is presented, followed by an illustrative practical application of these concepts in a B2B marketspace. A discussion of the theoretical and managerial implications of supply-side partitioning and transvectional alignment strategy follows, and suggestions for future research are offered.

2. Market segmentation and supply chain management literature review

A large body of academic and trade literature on segmentation exists. Smith (1956), in his seminal article, viewed market segmentation as a strategy in which demand was disaggregated and market offerings were adjusted to meet these separate demand functions. From his perspective,