Electronic Markets and Supply Chains: Emerging Models, Execution and Performance Measurement

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INTRODUCTION

This issue of *EM* brings together some of the best current work available in the area of supply chain management, especially as it relates to the design, adoption and performance of B2B marketplaces and exchanges. When this special issue planning began, the editors’ focus was on examining supply chain implications and technologies. The editors received more than 40 submissions for the special call. We want to thank the nearly 80 reviewers from around the world who engaged these manuscripts and provided clear and helpful feedback for all authors regardless of the final decision.

As the initial call suggested and these papers attest, the information technologies in organizational and interorganizational systems that facilitate supply chains is changing the business landscape in fundamental ways. Managers are being forced to rethink and reshape their business strategies, use of technologies, and relations with suppliers and customers as competitive pressures have made faster and leaner supply chains a primary goal for all participants.

DIFFERENT PERSPECTIVES

This special issue brings together researchers from organizational, operational and technological perspectives within the larger IS community to share their insights on a significant issue facing virtually every firm and industry. The papers tackle a wide variety of subjects in examining organizational and technological developments as well as implications of interorganizational connectivity, B2B, electronic markets, e-procurement and supply chains. Specific issues addressed include technology implementation and use, adoption of and participation in B2B innovations, shaping of business strategies, development of new and hybrid supply chain design and impacts on organizational performance.

EARLY ANSWERS

The papers provide some early answers as to how electronic markets and supply chain technologies deliver on the efficiencies they promise (and who benefits). The papers consider the strategic options available to...
firms in the selection of supply chain partners and supply chain configurations; the economic and performance implications of different supply chain management choices; and the drivers and barriers to supply chain development and adoption.

The final papers selected were chosen because of the strong insights they provided through theoretically rigorous development of models to examine the diverse uses of information technology in supporting supply chain activities. The papers are arranged in an order that moves from 1) identifying key motives for participating in electronically supported supply chains; 2) identifying specific examples of ISMs and Consortia; and 3) evaluating performance impacts of strategic choices as to the use of electronic supply chain elements such as e-marketplaces.

Rask and Kragh examine the factors influencing buyers and suppliers participating in e-marketplaces. The authors identify four key categories of drivers: efficiency, positioning, exploration and legitimacy. Applying the framework of drivers, 41 cases from 12 countries are reviewed. The results suggest that buyers are driven to e-marketplaces for reasons of efficiency and the potential for identifying new suppliers whereas suppliers are driven by external forces, including existing buyers, but also see opportunities for identifying new buyers and markets. Both buyers and suppliers envision e-marketplaces as defining their market positions. This paper is one of the few that looks at both the buyer and seller perspective within electronic markets — offering a unique combination of insights for the supply chain participants.

Huber, Sweeney and Smyth examine purchasing consortia capabilities within electronic markets. A survey that captures respondents from purchasing organizations as well as e-marketplace operators in the automotive and electronics industries offers new insights into the process, technological, organizational and strategic issues. The findings suggest that organizational size, purchasing expertise and technological sophistication are strongly associated with adoption of electronic purchasing consortia (EPCs). The EPCs have generated reductions in purchasing costs of over 5% and also allow buyers and sellers to maintain an arm’s length relationship. The authors also suggest there is more to come in customization, integration of multi-sourcing strategies, and a role for third party intermediation.

Le, Rao and Truong look at industry-sponsored marketplaces, a specific application of e-marketplaces. The adoption and use of ISMs is examined. While this is still an emerging area, these results offer some insights into the issues of design, adoption and use of ISMs. The data is collected from the perspective of the purchasing agents and suggests there are numerous perceived and actual benefits and the likelihood of increased use and benefits as adoption of ISMs becomes more widespread.

Gosain and Palmer develop a theoretical rationale for e-marketplace design based on differing levels of value (informational, transactional and relational) and differing levels at which the value might be achieved (firm, dyadic and network). Empirical results from 194 US e-marketplaces support the basic model and suggest that both traffic and links in performance of marketplaces is significantly associated with tenure online and marketplace ownership. Traffic is associated with transactional benefits and links in with relational benefits, market focus and e-marketplace resources as well. In addition, the findings suggest quite different marketplace strategies for commodity and complex products. This paper adds new perspectives to the conversation including the use of network exchange theory and network orchestration as theoretical underpinnings for the evaluation of strategic design options.

Laseter and Bodily provide one of the first empirical studies of financial performance among surviving B2B e-marketplaces. They provide a conceptual model of revenue and profitability drivers that include service breadth, strategic continuity, initial funding, ownership and execution. The authors utilize both RBV and Competitive Heterogeneity as foundational theories in the conceptual development of their model, offering a key contribution in analyzing both the initial funding of e-marketplaces as well as the concept of strategic continuity in decision-making and execution. The dependent variables of financial revenue and important initial financial milestones including positive contribution margin, break-even in net profit before tax, and positive operating cash flow on a quarterly basis also offer a unique method for capturing performance in growing firms.

CONTINUING QUESTIONS

As a group, these five papers begin to give us answers regarding the critical questions in e-marketplaces and supply chain management, including the factors influencing adoption, the different perspectives of buyers and sellers, strategic marketplace design options, and empirical evidence regarding e-market performance. While these papers offer a strong contribution to the discussion, there is more to do. These papers identify a variety of new areas for focus including the impact of internationalization on supply chains, differences in product asset specificity, and the interrelationships among motives for adoption. These papers suggest the existence of both different diffusion levels of supply chain technologies and that multiple variants of supply chains often operate simultaneously. This raises the issue of how these parallel, traditional and electronic supply chains differ and how they can be managed most effectively. The research also suggests the examination of electronic market and supply chain performance can continue to be refined and amplified through both larger samples and finer measures.