Boost Supply Chain Performance with Behavioral Decision Making

Abstract

Human judgement, and thus to a degree, irrationality, is a part of decision-making in almost every function of an enterprise, and supply chain management (SCM) is no exception. Over the years, many have studied the impact of behavioral decision making on supply chain and logistics functions, but we are still some way off from the operationalization of insights from these studies.

In today's dynamic market environment, an efficient SCM system is an important driver of a noteworthy customer experience and competitive advantage. Rarely sequential, the complex, interdependent nature of supply chains demands well-coordinated activities. Operating activities are typically spread across multiple functions, and response times are long. As resources are shared across the supply chain, the degree of interdependence increases.

These multiple inter-relationships in a supply chain make it an essentially 'human' function. While contracts and pricing are important controls within operations management, business success lies in 'objective' decision-making on day-to-day

SCM activities and the 'correct' operationalization of those decisions. And this critical responsibility lies solely with supply chain managers, with the expectation of purely rational thinking at all times.

Managers, on the other hand, are grappling with new, disruptive technologies and business scenarios that challenge their established methodologies and mental models. Global competition and rising consumer expectations create high demand for product and service quality. Ecommerce is transforming forward and reverse logistics, and efficient logistics network management is required to achieve desired delivery times.

To help managers make effective and time-bound decisions in these times of flux, the infrastructure supporting the supply chain decision making – collaborative information sharing, intelligent systems with analytics capabilities – must be agile and streamlined. We look at systemic changes in supply chains that can help organizations reduce scope for irrational or subjective decision making and present a framework that can help improve their chain decision-making.

Rationalizing Decision Making With Systemic Supply Chain Improvements

We look at two broad approaches to supply chain process design that can support rational and timely decision making.

A) Collaboration, Big Picture Approach, and Sustainability

A robust SCM system requires collaboration between different functions. Planning, procurement, manufacturing, and logistics must work closely to devise solutions that address all risks and opportunities in a rational manner. To operationalize this, supply chain managers must know all the aspects of functional interdependence and the points of impact thoroughly. Let's take the example of the collaboration of procurement function with suppliers. Over time, with long association and deep understanding of pain points, root causes and processes, a disciplined behavioral approach can bring in sustainability practices geared towards ecofriendly logistics with on time delivery and reduced costs.

Senior supply chain executives are pivotal to managing cross-functional relationships and strengthening collaborative decision-making processes. The enterprise has to be seen as a whole, and not as functional silos.[1] As the roles of the multiple players across the supply chain are linked together, integrated and aligned business frameworks make it easy for decision makers to access a single source of truth about business risks and objectives. This helps mitigate local and function-specific biases.

With environmental and regulatory concerns building up, today's supply chain managers have begun to build in sustainability strategies across the supply chain – from suppliers to customers. Consumers want to know the origins of a company's products to verify ethical production, as well as health and environmental impacts. This has increased the need for transparency across the manufacturing value cycle. For example, Chipotle has incorporated sustainability into its SCM system. It is delighting customers with 'Business of Good Food' and serving 'Food with Integrity'.[2] Chipotle's success proves that a sustainable and transparent supply chain network can translate into sales, give stiff competition to traditional giants like McDonald's, and become a brand differentiator.

B) Agile and Dynamic Supply Chain Planning

The quality of supply chain decision-making directly impacts a company's financial health. Hence, an in-built focus on minimizing operating costs, capital costs, and inventory should be the feature of all SCM systems.

Agile SCM systems that incorporate the latest supply chain planning models enable timely decisions and operational excellence are needed as a response to dynamic consumer demand patterns and rising competition. Supply chain processes must be flexible and responsive to deliver high-quality results and a favorable bottom line.

For example, there is no one-size-fits-all approach to align product mix to supply chain capabilities. Functional products that have steady predictable demand need efficient supply chains that shorten lead times and support limited inventory. Innovative and new products, on the other hand, align with supply chains that respond quickly to demand fluctuations and have adequate buffer stocks.

Postponement is another cost saving strategy widely used by industrial giants such as Xilinx, HP, Mars, Motorola, Toyota, Gillette, and Benetton.[3] In this strategy, companies identify the critical value-added activities across the supply chain, and only perform those activities when there is a clear demand signal from the market. Part of the postponement approach is to execute only when complete and reliable inputs are available. This shortens lead times, reduces inventory values, and supplements cash flow.

Supply Chain Decision Framework for Competitive Corporate Performance

A supply chain decision framework can help enterprises eliminate some degree of irrationality in ways that better inform decisions, and improve performance.

Figure 1 shows how supply chain decisions can be improved through initiatives on inventory optimization, functional integration, and digitization. By building supply chain capabilities that focus on cost reduction, optimization of cycle time, and agility, financial and operational returns can be maximized.

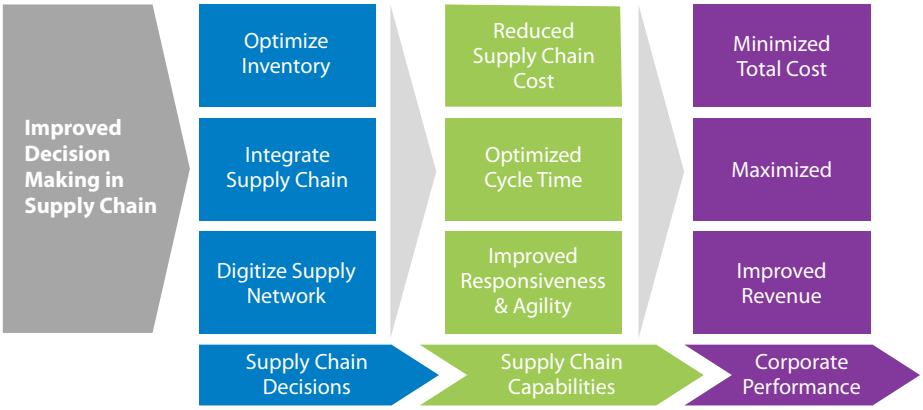

Figure 1: A Supply Chain Decision Framework that Enhances Corporate Performance

Inventory Management: A staggering 7% of the USA's GDP[4], which is an estimated $1.1 trillion worth of assets are tied up in inventory, accounts receivable, and payable. Optimization of resources and inventories can improve profitability and free up working capital, ultimately improving service levels and achieving financial and commercial excellence.

Supply Chain Integration: SCM systems need to integrate inventory management with the rest of the supply chain planning processes. Managers need to cut across functional silos, integrate business processes, have open and extensive communications, and work with other supply chain managers to tackle inventory issues in a rational and objective manner. Such integration minimizes transaction costs, increases coordination, and enables faster and correct response to market demands. Wal-Mart[5] thoroughly integrated P&G's Pampers product line into its supply chain through enhanced supplier collaboration. P&G, in turn, worked with 3M to integrate its production of adhesive strips with Pampers manufacturing facilities, managing to reduce dependence on external processing to achieve better ROI.

Digitized Supply Network: With advanced predictive technologies, supply chain managers can gain a deeper understanding of supply chain performance. Verizon, Microsoft, Tesla, and Google[6] are connecting digitized supply chain, IoT, cloud, and machine learning for greater predictability and improved planning, thus creating cost advantages, operational precision, and agility. Robotics is changing the logistics landscape with greater efficiency, while augmented reality holds promising possibilities for simulation and prediction models.

The healthcare sector offers examples of digital technologies being leveraged for more rational SCM. Production volumes from Invisalign, Medtronic, and Johnson & Johnson[7] show that the 3D printing technology is ripe for large-scale application. Health Catalyst[8] recently launched a new Bloomberg-like decision support

system called Leading Wisely, an online executive support tool. It combines data analytics from IT systems and distills various performance measures from multiple departments to help hospital administrators make smarter decisions.

Cloud-based solutions can also simplify supply chain decision-making to optimize allocation of raw materials and production capacity to meet demand. This enhances responsiveness and business revenues.

Recognize Behavioral Dynamics in SCM and Rectify Inefficiencies

Though behavioral science has only recently gained prominence in operations management, forward looking business leaders appreciate that the impact of behavioral decision biases is far reaching.

Businesses must strengthen the capability to collaborate among different supply chain functions. Timely and proactive decision-making will ensure positive bottom-line, sustainable growth, and customer satisfaction. Technology can be used to fill in the gaps, intensify data gathering capability, and build a digitized supply chain network. Organizations need to study how decisions are made in a B2B environment, as well as conduct direct analysis of managers' decision-making capabilities to identify and address common and persistent inefficiencies. Mitigating behavioral impact on SCM can help businesses realize its full potential as a source of competitive advantage.

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