White Paper

White Paper: Supply Chain Segmentation

SUPPLY CHAIN SEGMENTATION: THE NEXT STEP IN SUPPLY CHAIN EXCELLENCE

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Executive Summary

For many companies, supply chain segmentation sounds like a complicated process in an already complex global marketplace. But with the rise of globalization and outsourcing, it is becoming more and more difficult for single-supply chain companies to meet the requirements of all their major customers. Complexity and interdependence are unavoidable realities for modern supply chains, and adapting supply chain processes to meet these new realities is crucial for survival.

In simple terms, supply chain segmentation is about grouping customers with similar fulfillment needs and then developing distinct supply chain operations to meet those particular requirements. The objective of segmentation is to develop distinct supply chains that are able to more efficiently and profitably meet a wide range of customer needs. Given that most international supply chains today cater to hundreds of different customers—at various points along the distribution channel, each with unique requirements—a single supply chain often comes up short.

The question is, then, if you had multiple supply chains, each tuned to meet different customer expectations, what bottom-line benefits could you expect to see? Furthermore, what steps and technologies are required to begin the process of segmentation? This paper will attempt to answer these questions, leveraging research, case studies, and information on the latest enabling technologies.

People, Processes, and Technologies: What It Really Takes

In typical companies, a single supply chain is designed to meet the requirements of their most restrictive customers. While supply chain professionals attempt to keep cost differences (across customers) in mind when conducting standard cost processes, this is often difficult for a single supply chain serving widely diverse customer requirements.

Enterprise cost accounting, for example, attempts to average fulfillment costs in order to calculate standard product cost and gross margins, but these attempts are often inaccurate. Given that the majority of companies do not have activity-based costing systems in place, higher-cost customer SKUs are averaged into the product cost for all customers—producing misleading averages and making it difficult to understand the cost to serve for each customer.
But what if we were able to take a more granular view of our customers and their individual costs, and then tune our supply chains to meet those requirements? This is precisely the value of supply chain segmentation: instead of taking a “one-size-fits-all” approach, multiple supply chains are developed to meet the needs of different customer groups. In this scenario, high-volume customers would funnel through a supply chain designed to maximize efficiency, while low-volume, high-variability customers would funnel through a supply chain designed to maximize flexibility. The results? Reduced product complexity costs, improved profit margin, increased market share, and improved service levels.

![Figure 1: Benefits of supply chain segmentation](image)

As with any large-scale transformation, supply chain segmentation requires the right people, processes, and technologies. To this end, many companies are beginning to organize teams around specific market requirements. As these teams dig into specific customer requirements and needs, they often uncover inefficiencies, unnecessary costs, and a lack of flexibility. In today’s hypercompetitive marketplace, these supply chain shortcomings can mean the difference between profitability and loss of market share.

On the process front, leading manufacturers are beginning to design multiple supply chains around specific customer, SKU, and location requirements. While many of these processes are still manual, more and
more companies are beginning to automate low-touch processes so that supply chain disruptions and exceptions can be managed in real time. And until recently, the necessary technologies were simply not available.

But the advent of cloud-based software solutions has changed all that, enabling companies to segment their supply chains with the help of automated, on-demand tools, processes, and services. Specifically, so-called “Business Networks” are gaining ground as the most comprehensive solutions to meet the complex needs of today’s supply chains. A Business Network is a fully automated, end-to-end solution designed to facilitate connectivity, process orchestration, and exception management—all of which are prerequisites for effective supply chain segmentation. I will dive into the Business Network concept in greater detail in the final section of this paper.

Design Considerations

Design considerations for a segmented supply chain can be bucketed into four primary categories: products, demand, supply, and external environment (Figure 2). Here you will want to consider all those variables that drive complexity into your supply chain—from product features to demand variability to lead time to geographic location.
For example, what does the geographic footprint of your global supply chain look like? What modes of transportation do you use? How flexible are your various external partners? Asking yourself some of these external environment and product-specific questions will allow you to pinpoint the areas of greatest complexity and to group products/customers according to those common variables.

A two-by-two matrix can help to guide the segmentation process (Figure 3). This matrix considers the dimensions of demand variability and volume, and allows you to group customers according to their specific needs. All customers expect you to be responsive, but some place a premium on efficiency while others require superior agility.

**Figure 3: Supply chain segmentation matrix.**

**High demand variability, low volume.** Customers in this category need an extremely agile, responsive supply chain in order to maintain their service levels. For this class of products, you may use a build-to-order model, where the focus is on individual SKUs. To meet these requirements, your supply chain needs to be able to change quickly and with little notice—adjusting product mixes, rerouting shipments in transit, or expediting inventories to meet unexpected shifts in demand. Generally speaking, this category of customers has the highest cost-to-serve model.
Low demand variability, high volume. This category applies to a variety of products (consumer products in particular), where standard product availability is of the utmost importance. Efficiency is critical here, so you may consider implementing a make-to-stock model. Staging inventory and maintaining real-time visibility will also help maximize continuity of supply to the customer. Given that high-volume customers offer the greatest revenue opportunity, maximizing efficiency for these customers is imperative to ensure sustained profitability.

High demand variability, high volume. For this category of products (the memory and semiconductor space are good examples), it’s all about responsiveness. A build-to-demand model may be most effective for this category, where the focus is on continually reducing cycle times. Customers in this quadrant are generally ideal for collaborative planning, forecasting, and replenishment, making tight collaboration with these partners critical.

On top of the aforementioned considerations, you need to layer additional product dimensions such as manufacturing strategy, life cycles, and product costs.

For example, towards the end of a product’s life, high-volume products may need to be transitioned into an agility-focused supply chain in order to drain out the very last bit of inventory. This will enable your customer to switch over to new (higher margin) products without having to discount residual inventory of the older product.

By leveraging this framework, you can begin to group different customer/product types by category and to build out multiple supply chains according to these dimensions.

Leading High Tech Manufacturer Realizes Improved Customer Service Levels and Reduced Supply Chain Risk

Following a period of declining customer demand, a leading high-tech manufacturer decided to implement a supply chain segmentation strategy in order to better align with current market conditions and customer needs. The company is a leading manufacturer of laptops, desktop computers, and smartphones with more than $15 billion in annual revenue. Based in Asia, the company has global operations across more than 60 countries. Prior to segmentation, the company’s market structure was regionally based.

To begin, the company shifted its fulfillment strategy to meet the needs of its different regional markets. The company had mature markets in North
America and Europe, emerging markets in Asia, and additional customers in Latin America. The company therefore decided to focus on these three market segments: mature, emerging, and Latin America. This involved careful consideration of the logistics networks required to deliver products into these three regions, plus the unique requirements of the different customer types. The company also noticed that their customers exhibited two distinct types of buying behaviors: one transactional, and one more relationship based.

Referring to the two-by-two matrix outlined in Figure 3, the company settled on two types of supply chain segments:

1. An efficiency-oriented supply chain with a build-to-stock model, and
2. An agility-oriented supply chain with a build-to-demand model.

The first supply chain segment was designed for a focused product portfolio with high forecast accuracy. These products tended to be the lower cost products, and allowed the company to leverage its production capacity to the fullest. Customers falling into this category tended to exhibit transactional buying behavior.

The company’s second supply chain segment was designed to accommodate higher demand variability for products with shorter lead times. This segment involved a much larger product portfolio and generally product costs were higher. Because this customer type tended to be more relationship focused, it was important for the supply chain to be agile and responsive—not strictly efficient.

Once the segments were defined, the company began organizing teams and skill sets to best serve each type of supply chain. The company set up new operational teams based on specific market requirements, organizing these teams based on skills and experience for each market. The company then implemented process flow mapping to enable monitoring and adjustments for continuous process improvement.

Finally, the company decided to centralize the bulk of its procurement, manufacturing, and logistics functions in order to drive cost reductions and improve serviceability. The results of the segmentation initiative were noticed immediately: customer satisfaction improved across all three markets and the number of supply chain exceptions dropped dramatically for both segments. This meant less manual intervention and less overall supply chain risk.
Finally, let’s take a closer look at the processes and technologies required for effective supply chain segmentation:

- A collaborative platform to execute multiple supply chain strategies simultaneously;
- Near real-time trading partner connectivity, regardless of individual partner protocols and formats;
- The ability to rapidly configure supply chains for different products, customers, service level agreements (SLAs), and fulfillment performance requirements;
- The ability to monitor the performance of individual supply chain segments

While achieving these capabilities was nearly impossible just a decade ago, the emergence of modern Business Networks has swung the door wide open. If you’re not familiar with the Business Network concept, a Business Network is a cloud-based solution that offers the software, content, and services needed to manage multi-enterprise processes across multiple tiers of trading partners. Specifically, a Business Network enables B2B integration, visibility, and collaboration across a community of trading partners (most pre-existing)—plus the partner profiles, productized B2B maps, and best-practice KPIs needed to quickly enable processes between partners, outside of their firewalls. The advantage of the Business Network approach is that all external supply chain processes are automated and executed in the cloud, enabling management by exception for more flexible, efficient, and scalable processes.
Within the context of supply chain segmentation, a Business Network provides complete transparency and key performance indicators (KPIs) across 100 percent of trading partners and business processes. This enables you to monitor and categorize different customers and product types along the dimensions discussed earlier. In order to segment effectively, you need the ability to calculate the cost to serve each customer—and that requires visibility, collaboration, and relevant performance metrics.

For example, the cost-to-serve a Wal-Mart store in the U.S. may be significantly different than smaller store locations in emerging markets. By calculating the cost to serve each Wal-Mart location, you will be able to determine whether or not the various locations should be grouped into the same supply chain segment.

Granular, rule-based configuration is also possible within the context of a Business Network, enabling you to measure relevant metrics at the SKU/ manufacturing location, logistics lane, and customer location levels. Classic attributes like order lead time, order cancellation, order size, change frequency, and stocking levels should also be considered. Depending on the specific attributes of a customer or product, you will be able to group similar customers and products into supply chain service levels (segments) designed to meet individual customer requirements.

Business Networks also provide prebuilt trading partner profiles and productized B2B maps, allowing you to reuse existing connections simply by “plugging” into the network. For example, instead of having to create new connections for each supply chain segment, all segments can leverage a single partner profile to connect and begin doing business immediately. This is particularly useful for 3PL carriers or critical component suppliers, which might be involved in multiple supply chain segments. The ability to receive and translate information regardless of individual partner protocols and formats is also critical—and is another advantage of leveraging a sophisticated Business Network.

The Bottom Line
Supply chain segmentation means the ability to manage your supply chain at a much more granular level. Configuring your supply chain rules to get down to the customer SKU location level will provide you with the visibility and control you need to deliver superior service levels to each and every one of your customers. Ultimately, more granularity means much better cost management—plus the ability to drive market share and profitability.
When compared with traditional forecasting methods, supply chain segmentation is the clear winner. With the appropriate people, processes, and technologies on board, a segmented supply chain gives your company the visibility, control, and flexibility you need to deliver customized service to your customers and to make continual adjustments for process improvements.

About E2open
E2open is a leading provider of cloud-based supply chain management solutions. The company provides software and services that enable visibility, collaboration, and control across large trading partner networks. Brand owners and global manufacturers with complex supply chains use the company’s B2B integration services and supply chain business process management solutions to maintain optimal alignment of supply and demand for lower costs and better service. E2open is headquartered in Foster City, California with operations worldwide. For more information, visit www.e2open.com.