

# WHITE PAPER

## THE TRUE COST OF SUPPLY CHAIN DECISIONS

### BALANCING BILL OF MATERIAL COSTS AND CUSTOMER SATISFACTION



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DOCUMENT: SSWP00-SUPCHCOST-R



## TABLE OF CONTENTS

Introduction .....2

Examining the Effects of the Supply Chain .....2

A Real-Life Lesson in Supply Chain Management.....3

The Costs of Not Viewing the Supply Chain as One Entity.....5

Finding a Way to Mend the Chain.....6

The Supply Chain as a Competitive Weapon .....7

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## INTRODUCTION

Continual cost cutting and greater financial responsibility is the pressure that today's organizations are under — so much so that they may inadvertently reverse the effectiveness of their supply chain, which increases costs and waste instead of profitability. There exists a very real financial stress caused by corporate objectives and Wall Street expectations when a company goes public, at which time costs, gross margins, and quarterly profit and loss reporting become the dominant decision-making influencers. All too often, this financial responsibility stress forces organizations to operate based on their legacy sourcing decisions, where the cost of a unit is the dominant factor in product selection. For these organizations, the act of cost-cutting becomes the prime metric for determining their supply chain's effectiveness.



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While this strategy is certainly a popular one across many industries, it is not necessarily what is best for the organization, nor for their customers. This strategy makes the supply chain function more of a transactional process that is measured on a per-unit basis, versus a strategic process where the impact throughout the entire supply chain is considered. If suppliers and customers fail to work together to find an optimal balance, then cost, reliability, customer satisfaction, profitability, and continued technology advancements cannot exist in harmony.

## EXAMINING THE EFFECTS OF THE SUPPLY CHAIN

Focusing on the relevance of legacy sourcing and cost-cutting may seem attractive to an organization at first glance because the outcome can provide instant results. Bill of Material (BOM) costs are successfully driven out of the cost model and gross margins are enhanced. The organization experiences quick success as seemingly profitable products are introduced to customers.

However, this lack of attention to the rest of the supply chain impacts negatively over time as quality issues, product failures, and unscheduled downtime become a consequence for the company. Imperfect interdepartmental communication within an organization may prevent the rest of the supply chain from realizing that product issues exist. Without this knowledge, there is no direction or warning to requalify a specific vendor. In addition, the supply chain's performance bonus may be based on the lower unit cost rather than the total cost of ownership.

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In this type of scenario, it becomes nearly impossible to maintain organizational supply chain effectiveness. Within the organization, there may be disparate factions working against each other with diametrically-opposed performance metrics; one chartered with getting the lowest cost, another with designing in benefits for product differentiation, and another whose mission is to increase sales and corporate profitability.

In a situation where a low-cost supplier was chosen and product failures persist, sales may begin to discount products to maintain existing business and lure new business, which results in gross margin erosion. This causes the supply chain to drive costs down even further to compensate for the loss in sales revenue. The organization will continue in this pattern toward failure unless the problem is identified and the strategy redirected at the senior executive level by someone who has profit and loss accountability across the entire organization.



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## A REAL-LIFE LESSON IN SUPPLY CHAIN MANAGEMENT

A global telecommunications manufacturer learned an expensive lesson in the importance of effective supply chain management when it began experiencing difficulties with its central office switch, an application with an average selling price in the range of \$75,000 to \$200,000 per unit. This application required a continuous, always-on duty cycle that caused hard drive wear-out resulting in product failures in the double-digit percentage rates. The company estimated that each product failure cost \$5,000 in just service expenses. This \$5,000 figure did *not* include parts or required travel on the part of the technician, which eventually resulted in customer ill-will and sales needing to discount the product to maintain the business.

The company's supply chain was paying approximately \$150 per unit for a hard drive solution that stored the switch's operating system and log file data. After conducting an analysis, the company determined that the required data could be stored in as little as 8GB.

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As a result of the company's storage solution failures, alternative storage solutions were considered, among them solid-state storage because of its high performance, high reliability, and overall endurance that favored heavy duty-cycle and multi-year product lifecycle deployments. The cost of the 8GB solid-state drive replacement solution in consideration was less than \$500. Even though this would save the company at least \$4,500 in service fees per unit, in addition to savings on parts, travel, and sales discounts, the supply chain refused to consider the purchase. At more than three times the cost of the hard drive, selecting the solid-state drive would put the company's supply chain in direct conflict with its departmental compensation plan. Selecting the solid-state drive meant there would be a negative Product Price Variance (PPV), indicating poor purchasing performance when compared to the current solution's standard cost.

To further fuel the problem, the company's accounting system did not recognize actions and or decisions made in one department that may have a dramatic affect on another. Even though the company expressed teamwork values, there was no vehicle to share the knowledge or processes that could achieve lower costs without sacrificing product quality. Thus, the focus of the accounting system relative to purchasing was on the unit cost.

The company continued on a downward spiral for some time until the business loss was so great that the issue was escalated to executive staff members with profit and loss responsibility. When the divisional vice president with the power to change the performance metrics became involved, the problem was effectively addressed and solved. However, during the interim, millions of dollars were lost as a result of an ineffective supply chain.

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## THE COSTS OF NOT VIEWING THE SUPPLY CHAIN AS ONE ENTITY

In many cases, the hidden costs associated with correcting damage caused by putting too much relevance on unit costs outweigh the money originally thought to be saved. The expenses associated with product failures, forced product requalifications, and those resulting from working with low-cost suppliers who must end-of-life their technology as their component suppliers change parts, are hefty.

When the supply chain breaks, business suffers. A lack of communication between suppliers in general or a lack of infrastructure within low-cost providers can have profoundly negative effects on an organization's ability to garner new business. Failing to collaborate with suppliers' and customers' design teams can lead to missed product design opportunities.



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Customers and prospective customers relying on emerging technologies suffer as well. In some cases, a product's usable life does not match its deployment cycle due to qualification failures or obsolescence of low-cost suppliers who cannot support multi-year product lifecycle requirements. Basically, a faulty supply chain hurts every party it serves at one point or another.

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## FINDING A WAY TO MEND THE CHAIN

Gloom and doom aside, there *is* a way to correct this problem. It starts with the realization that unless all parts of the supply chain act together, the chain will never be strong enough to be truly effective. Fundamentally, supply chain-reliant organizations need to operate as a team with their suppliers, collaborating on costs and product designs to find the optimal mix of BOM costs, performance and reliability, and ultimately company profitability. And, they need to do this with the customer always in mind. Ultimately, all major decisions should be made based on this question: How much are customers willing to pay for a product that *fully* meets their expectations?



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Viewing the supply chain as a whole generates products that deliver a high customer-perceived value, exceed performance, achieve reliability and product lifecycle expectations, and lower the total cost of ownership in several ways besides unit costs. These products provide the following benefits:

- Eliminate the costs associated with product failures and unscheduled downtime, such as warranty, field maintenance, and service.
- Allow the customer to remain on the current version of a product for as long as required without being forced to upgrade or requalify.
- Exceed the product lifecycle expectations of customers.

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## THE SUPPLY CHAIN AS A COMPETITIVE WEAPON

When used effectively, a successful supply chain can become what sets an organization apart from its competition, especially if its competition is following a strategy that puts too much emphasis on lower BOM costs. Ideally, suppliers should act together as a team to support each other's needs and ultimately be each other's competitive weapon. Successful supplier design collaboration create.



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