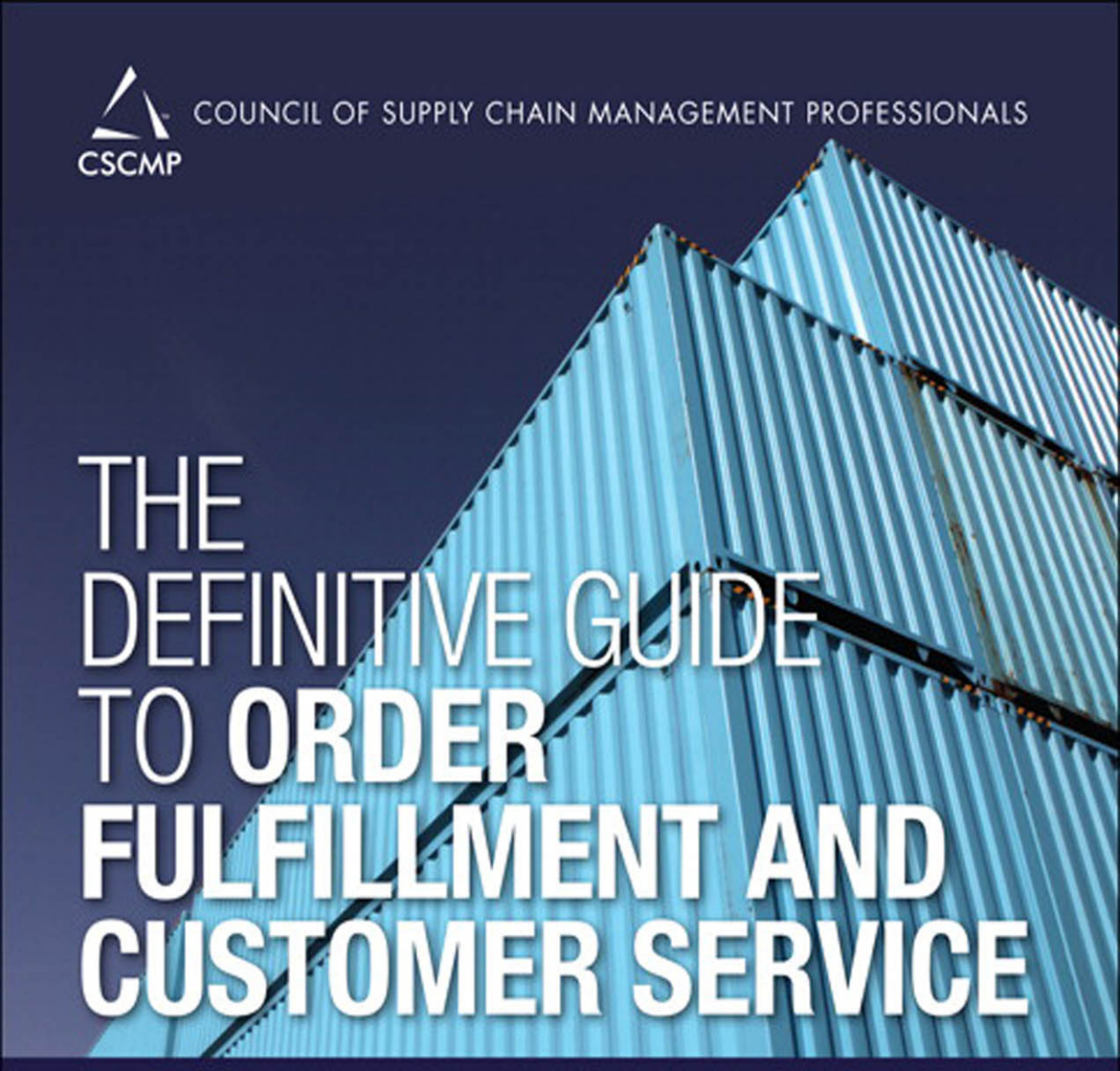

THE DEFINITIVE GUIDE TO ORDER FULFILLMENT AND CUSTOMER SERVICE

Principles and Strategies for Planning, Organizing, and Managing Fulfillment and Service Operations

Council of Supply Chain Management Professionals and

Stanley E. Fawcett & **Amydee M. Fawcett**

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Customer Response	Probability (i.e., Frequency)	Cost per Incident	Expected Cost
Back Order	.50	$100	$50
Lost Sale	.30	$3,750	$1,125
Lost Customer	.20	$50,000	$10,000
Expected Cost per Stockout			$11,175

Based on this analysis, you could improve overall financial performance by investing up to $11,175 in inventory (or some other remedy like better information) to eliminate a stockout of this item. Further, if you experience 100 stockouts per year, you can justify a $1,117,500 investment to improve your order fulfillment process to eliminate stockouts. As your efforts improve perceptions of your service, you may benefit from higher levels of satisfaction, loyalty, and lifetime stream of profits.

The Cost of Supply Chain Glitches

Supply chain glitches, including order fulfillment failures, can incur more wide-ranging costs than those described previously. For instance, event studies have quantified operational and stock price effects. Firms that experience and announce glitches report on average 6.92 percent lower sales growth, 10.66 percent higher growth in cost, and 13.88 percent higher growth in inventories.[21] Perhaps more important, glitches influence stock price valuations. An event study that looked at 838 glitch announcements found a 10.28 percent decrease in shareholder value.[22] The negative valuation effect is consistent across source as well as type of problem (see Figure 2-5). Put simply, it doesn't matter where the problem occurs or what the cause is, supply chain failures that undermine reliable delivery damage reputation and undermine stock price. The researchers who performed these studies argue that managers need to quantify these costs to make the "economic case for the major organisational changes that are needed to improve the reliability and responsiveness of supply chains."[23] They conclude,

> The fact that disruptions caused by external sources (supplier and customers) experienced a higher penalty suggests that these problems can be more expensive and time consuming for the firm to fix. This may be due to the firm's limited power to change their external partners' operations to solve the problems. This further underscores the need to form close and collaborative relationships with the various links in the supply chain. A firm must make sure that its supply chain partners see the value of working together to improve the performance of the supply chain network.[24]

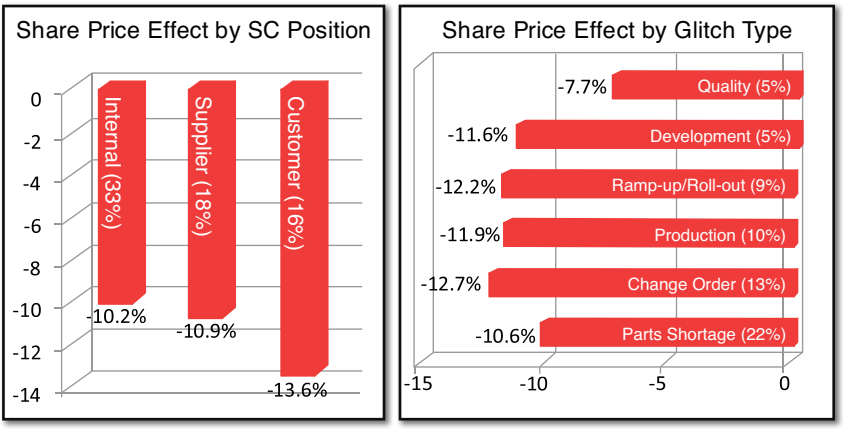

Figure 2-5 The stock-price-valuation effect of supply chain glitches

Conclusion

Establishing fast, flexible, robust, and efficient delivery processes to meet diverse customer needs is the key to order fulfillment system design. To do this, you need to define individual customers' needs and analyze numerous cost-service tradeoffs. Sometimes, however, delimiting all the variables to aptly define the "optimal" fulfillment system is a challenge. Consider Amazon.com's emergence as the world's largest online retailer with $61 billion in 2012 sales. Amazon began operations in 1995 as an online bookstore and went public on May 15, 1997. As a virtual retailer, Amazon was not constrained by physical footprint. It could offer customers far more titles than bricks-and-mortar rivals like Barnes & Noble. Almost immediately, Amazon became the face of virtual retailing, helping to popularize online shopping.

Analysts were thus dismayed when Amazon started to build large fulfillment centers. In 1997, Amazon built its second fulfillment center—a 202,000 square-foot facility in New Castle, Delaware. As a virtual retailer, Amazon wasn't supposed to need profit-diluting investments in bricks and mortar. Of note, such investments helped push Amazon's first profit out to the fourth quarter 2001—four years after its initial public offerings (IPO). Why did Amazon need to own and operate fulfillment centers? The answer lies in Jeff Bezos', Amazon's CEO, conviction that online shoppers desire rapid, reliable, low-cost delivery. In other words, customers want the back-office operations to be as smooth and hassle free as Amazon's state-of-the-art Web interface. As a pure virtual retailer, Amazon would always be a broker, offering breadth of product, but never able to deliver with the speed and dependability customers demanded.

From the beginning, Jeff Bezos wanted to change customers' buying habits—something Amazon could only do by building a world-class fulfillment capability. By 2013, Amazon operated 46 fulfillment centers in North America (37+ million square feet of warehouse space). Amazon had arguably become Walmart's most feared competitor.[25] Today's Amazon—armed with cutting-edge IT and an extensive distribution network—is close to achieving the elusive goal of same-day delivery.

What do you need to take away from this example? A myopic, short-term approach to tradeoff analysis and order fulfillment system design would have precluded Amazon's growth and long-term success. Order fulfillment design is part art and part science. You need to develop a deep understanding of customer needs and the costs of serving them. Chapter 3, "Developing a Winning Customer Fulfillment Strategy," addresses this challenge. You also need to establish a systematic approach to analyzing myriad design tradeoffs. Chapter 4, "Configuring the Network for Successful Fulfillment," explores this dilemma. You need to be able to discern when order fulfillment is an order qualifier and when it might be used to change the competitive rules. If you can use order fulfillment to change customer behavior and expectations, disadvantaging your competition, you may be able to justify investing in a world-class order fulfillment capability.

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