Effective Practices for Business Continuity Planning in Purchasing and Supply Management

A Management White Paper

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Increasingly, firms are coming to rely on their supply chains to augment and enhance their own internal capabilities. Many of these firms are also working to streamline their supply chains and make them "leaner." They are identifying and reducing or eliminating waste and buffers in their various forms. Yet, there is a "dark" side to this strategy. These lean supply chains are become increasingly "fragile" – less able to deal with shocks and disruptions that can have significant, if not catastrophic, impacts on the firm. To counter this "fragility," a new system is now emerging to help managers and firms – Business Continuity Planning (BCP). Based on a recently completed field study funded by the AT&T Foundation, this white paper explores these challenges to supply side continuity and presents a blueprint that identifies the critical activities that must be carried out to effectively and efficiently deal with such threats.

The Dark Side of Supply Chain Management – Exposed

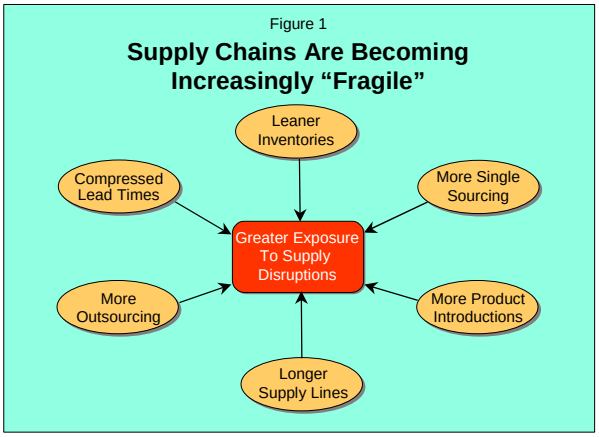
Consider for a moment, the following events:

- ***September 21, 1999***: A magnitude 7.6 tremor struck Taiwan, killing over 1,500 people. This earthquake hindered the supply of computer chips, affecting many firms (such as HP, Dell, and Compaq) and their ability to meet anticipated consumer demand for the 1999 holiday session.
- ***September 11, 2001***: Terrorist attacks destroyed New York's World Trade Center Towers. Not only were some 3,000 lives lost, but also companies such as American Express experienced significant losses in terms of their information databases.
- ***August 14, 2003***: Electrical power distribution in the American Midwest and Ontario was disrupted, with power outages lasting up to several days. The effects of this disruption were felt as far away as California, where Apple Computer was preparing to launch its much-anticipated G5 computer. This launch was affected by the fact that IBM in New York manufactured the microprocessor chips required by Apple. The power disruption resulted in large-scale losses of chip production.

These events share certain important traits. First, each created large-scale supply-side disruptions. These disruptions affected the ability of many firms to meet previously made commitments. Second, these are rare events that are very difficult, if not impossible to predict. How many managers or analysts had even considered the possibility of one, let alone two commercial aircraft crashing into the World Trade Center? Yet, once these events occurred, their effects were massive. Finally, these events had such a large impact because they hit supply chains that were neither robust nor resilient. That is, the affected supply chains lacked sufficient buffers, in the form of lead time, inventory or extra capacity, to allow time to respond to these supply-side disruptions. In many cases, these buffers have been deliberately eliminated or dramatically reduced

Figure 1

Supply Chains Are Becoming Increasingly "Fragile"



by managers seeking to develop "lean supply chains." Managers have turned to approaches such as Lean Systems/Just-in-Time, Six Sigma, and Total Quality Management in the hopes of identifying and eliminating all forms of waste and buffers.

Consequently, when the disruptions occurred, they had an immediate, and in some cases devastating impact on the firms.

Yet, there is evidence to indicate that these events are not unique. As firms and supply chains continue to "lean" themselves out, they are becoming increasingly more sensitive to such threats (see Figure 1). The challenge now facing firms and managers is that of to respond to these threats. However, an answer is now emerging – an answer in the form of Business Continuity Planning.

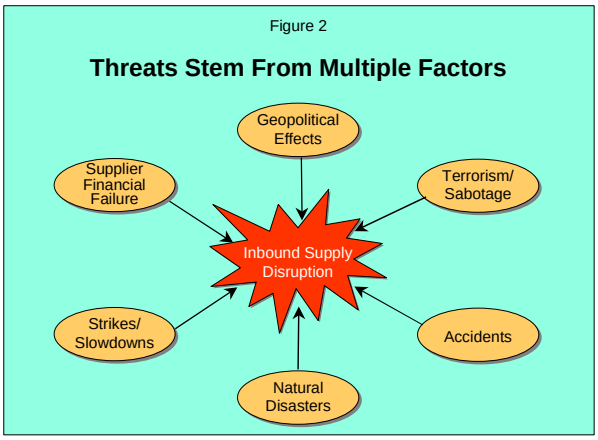
Business Continuity Planning – Insurance for the Supply Chain

Business Continuity Planning (BCP) is an integrated set of formalized procedures and resource information that firms can use to recover from an event that causes a disruption to business operations (Barnes, 2001). To date, much of the emphasis in BCP has been on dealing with disruptions to information systems and technology. The concepts however, can also be applied to managing a broader range of potential disruptions in the supply chain.

BCP recognizes that in today's business environment, there are many threats to supply chain continuity (see Figure 2). Supply disruptions can lead to large and

Figure 2

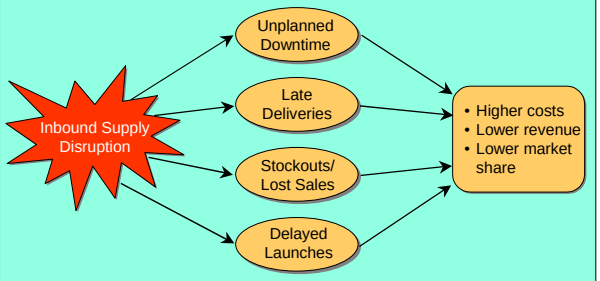
Threats Stem From Multiple Factors



unplanned cost increases, revenue reduction, and lower market share (as shown in Figure 3). To minimize such disruptions and their effects, a firm must first understand its exposure to the risk of supply disruption. This is the starting point for BCP.

Figure 3

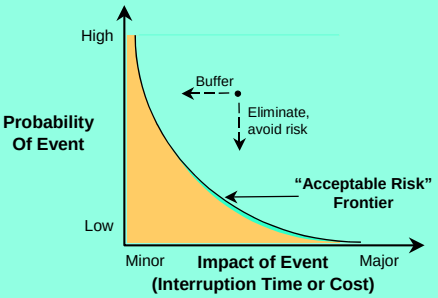
Business Effects of Supply Disruption



Every supply chain is exposed to risk of disruption from various sources. As suggested in Figure 4, risk exposure is a function of two factors: the probability and impact of a disruptive event. Business Continuity Planning is a particularly appropriate tool for managing supply risk due to events whose probability

Figure 4

Understanding Risk Exposure



of occurring is low, but whose impact is significant. In this category of risks, it is often particularly difficult and/or expensive to entirely eliminate the chance of the event occurring. So it is critical to have a plan in place for quickly remediating its impact on organizational performance and possible supply disruption effects.

BCP in Purchasing and Supply Chain Management

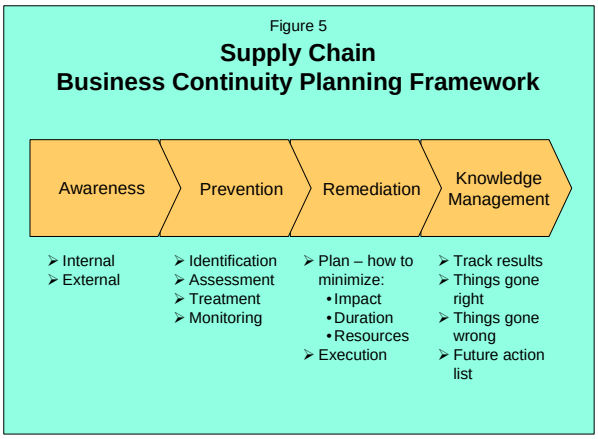
Recently, a research team from the Eli Broad Graduate School of Management at Michigan State University completed a research project aimed at identifying and codifying the principles, practices and systems intended to manage and reduce supply side

disruptions. This study found that firms can and do thrive when faced by such disruptions. More importantly, the benefits realized by taking a proactive stance with respect to risk and supply chain disruptions far outweigh the costs.

From this study, a framework for effective supply chain BCP emerged (Figure 5). This model consists of four key processes of awareness, prevention, remediation, and knowledge management.

Figure 5

Supply Chain Business Continuity Planning Framework



Creating Awareness

The first element of the framework is creating *Awareness.* Awareness is developed when the firm recognizes that it is exposed to risk of supply chain disruptions, and realizes the potentially serious consequences of such disruptions. This awareness must develop *internally*, at multiple levels of management, so that resources can be allocated and appropriate processes and tools can be developed and deployed to manage the risk. It is also important to push this awareness out into the supply chain, to customers and suppliers, so that their help can be enlisted in the effort to manage the risk.

Prevention

The second important element in continuity planning for the supply chain is *Prevention*. The focus here is reducing the likelihood and/or the impact of supply chain disruptions. Prevention comprises four key processes:

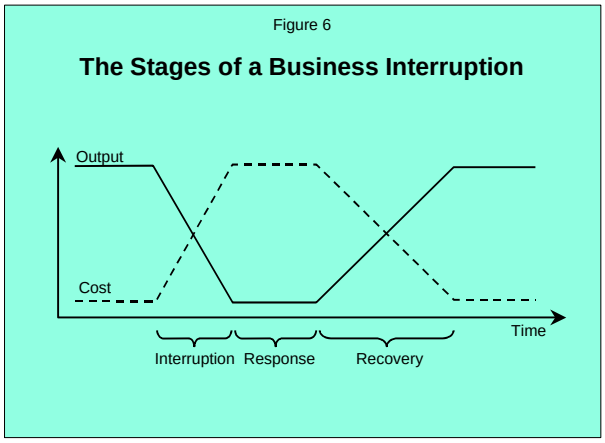
- *Risk Identification*: carefully enumerating the various causes/sources of potential supply chain disruptions.
- *Risk Assessment*: evaluating the likelihood of occurrence and the impact that event will have on the business for each cause or source of potential disruptions.
- *Risk Treatment*: prioritizing the various causes/sources of potential disruptions and developing strategies for reducing their likelihood and/or mitigating their impact on the business.
- *Risk Monitoring*: monitoring, on an on-going basis, developments in the supply chain that may increase or decrease various risks. These might include changes in the economic or political environment, changes in supply markets, or the status of individual suppliers.

Remediation

The third element of the continuity planning framework is *Remediation*. While the firm takes steps in the *Prevention* stage to reduce its exposure, risk cannot be completely eliminated and disruptions to the supply chain cannot always be avoided. Thus, firms need a course of action to follow in order to recover from a disruption when it occurs. The firm should consider how it might shorten the duration of the disruption, minimize its impact on the business, and identify in advance the resources that will be needed to carry out this plan. A diagram of the stages of a business interruption can be found in Figure 6.

Figure 6

The Stages of a Business Interruption



Knowledge Management

The last element of the framework is *Knowledge Management*. When supply chain disruptions occur, it is important that the firm *learn from the experience*. That requires a post-incident audit that

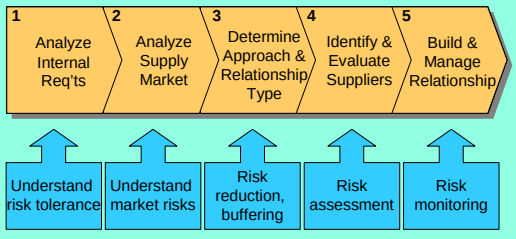
identifies important lessons learned – things gone right, things gone wrong, and the results of the remediation effort – along with feedback to the earlier stages in the continuity planning process so that the firm can benefit from these lessons by carrying out a "post-mortem." Supply disruptions are an indication that something went wrong and that the existing plans and contingencies in place may not be adequate. Even if the plans were adequate and the effects of the disruption were minimal, management must review what happened and carry out what is essentially a debriefing. Based on the review, the existing BCP must be revised with the goal of addressing the deficiencies while simultaneously keeping the strengths of the existing plans and tactics.

Conclusion

Business Continuity Planning for the supply chain should not be viewed as a separate, independent planning activity. Rather, it should be seen as an integral part of a firm's strategic sourcing process. At each stage in the strategic sourcing process, there are risk management considerations that should be an inherent part of the process (see Figure 7).

Figure 7

Risk Considerations in the Strategic Sourcing Process



Risk is a fact of life. If firms choose to draw on the capabilities and potential offered by supply chain management then, by necessity, they are exposed to the risks present in the supply chain. Ignoring risk does not make it go away. However, firms can manage and live with risk. A key ingredient in this risk management process is Business Continuity Planning. The purpose of this white paper is to examine the current status of business continuity planning in supply management and to offer some initial insights for understanding this practice. They have also reinforced the view that while risk cannot be ignored, it can be managed. Failure to manage supply chain risk can have devastating results.

Effective BCP for today's industrial enterprise must be more than backing up critical data and systems in multiple locations. It should be a structured and formal process that identifies, manages, and reduces all forms and types of supply chain risks. No firm that relies on its supply chain can afford to be without a continuity plan.

Risk is a fact of life; with the preparation offered by BCP, it can be reduced. Remember the movie with W.C. Fields. After watching the comedian look over his poker hand, a man asked, "Is this a game of chance?" Fields replied, "Not the way I play it." BCP enables management to make effective and efficient supply chain management less of a game of chance.

For Further Reading

Barnes, J.C., 2001, *A Guide to Business Continuity Planning*, (New York, NY: John Wiley & Sons).

Cranfield University:
http://www.som.cranfield.ac.uk/som/scr

The Business Continuity Institute:
http://www.thebci.org

The Disaster Recovery Institute:
http://www.drii.org

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