The Supply Chain and Business Continuity: Preparing to Survive the Next Disaster

Betty A. Kildow, CBCP, FBCI, Emergency Management Consultant
Kildow Consulting
765/483-9365 BettyKildow@comcast.net

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Abstract. Today more than ever before every business and organization faces emergencies daily. In most instances these situations are handled relatively easily and are transparent to the world outside, and we move forward. Unfortunately, some of these situations expand to the crisis level. Natural disasters can strike with no warning, wreaking havoc and destruction in their wake. Recent financial challenges have heightened the impact of these challenges on operations and employees.

Technological and human-cuased disasters are an area of continuing concern for all organizations. In our rapidly-changing world, new threats arise on a regular basis, ones we have never previously considered. If not dealt with effectively and quickly, these events can threaten the reputation and future success of your organization, even its very survival.

While supply chain professionals are not typically assigned primary responsibility for business continuity planning, the success or failure of an organization's efforts to continue or resume operations following a disaster likely depends on the supply chain operating at an acceptable level. A failed link in the supply chain can result in an inability to recover operations before the organization experiences grave consequences.

Business Continuity Considerations. Disaster can strike quickly and without notice, and if it has not already, a serious emergency or a disaster will likely occur at your company at some time in the future. While we often think in terms of major disasters that create havoc and impact whole communities, such as terrorist attacks, hurricanes, tornadoes, earthquakes, or floods, your organization's disaster is more likely to be a smaller scale, non-headline-generating occurrence – a power outage or water main break in your immediate area, fire in a room of your building, a bomb threat, or workplace violence incident. Just as it is not possible to totally prevent most disasters and emergencies, it is not realistic to assume that all emergencies will happen to other organizations but never to yours. Being prepared is both ethically correct and good business.

In today's world it is not only necessary to have a robust business continuity plan to protect your organization and its operations, others outside the company including customers are interested in your level of business continuity preparedness. Increasingly, prospective customers may ask about your business continuity program, and there is every likelihood that a competitor is using their capability to continue operations following a disaster as a potential marketing edge.

While you may not have direct business continuity planning responsibilities or be a member of a business continuity team, every employee needs to be aware of the company's business continuity strategies and their specific role in carrying out those strategies. Business continuity

will not succeed until all elements of the supply chain are an integral part of the company's approach to business continuity planning.

Continuity of the supply chain is more complex and challenging today than ever before. Just-in-time inventories, longer and more complex supply chains that may include reliance on out-of-area and out-of-country suppliers, leaner supply chains, stringent service level agreements, an increasingly greater number of new products, extended hours of operations, and stricter regulatory requirements all contribute to an environment where a disruption of the supply chain that was once considered an inconvenience is now viewed as unacceptable. And in the current and continuing economic turmoil, even greater pressure is being exerted on supply chains, as a result of efforts to maintain a smaller footprint, minimize costs, and cope with an unstable economy that results in pricing and credit concerns.

Business Continuity Basics. As early as the 1960's and increasingly in the 1970's, companies began recognizing the need to protect, and in the event of a disaster recover, their technology – systems, networks, data, and communication. Some industries (e.g., financial institutions and pharmaceutical companies) implemented disaster recovery programs to meet increasingly strict regulatory requirements.

Business continuity is still a relatively new and evolving business practice. Over the years, the scope has broadened, in part due to business continuity and disaster recovery planners' continuing efforts to raise awareness of the need to protect not just technology, but the enterprise as a whole. By the mid-1990's many organizations had expanded their planning to include recovery of critical work processes – the business of the business – not just the supporting technology. As late as the early- to mid-1990's having a capability to restore operations within 72 hours or less was considered an acceptable – even admirable - goal. Today for some organizations it is unacceptable for some functions to be non-operational for minutes, even seconds.

Continuing disasters, the most significant of these being the September 2001 terrorist attacks and multiple severe natural disasters, continue to heighten the awareness of the need for business continuity planning. Today, there is a continually growing awareness that the supply chain is susceptible to potentially crippling disaster-caused disruptions and that supply chain continuity must be fully considered and integrated for a comprehensive enterprise-wide business continuity program to succeed.

As Business Continuity further matures, we continue to search for improvements. In response to the growing importance of business continuity planning steps are being taken to establish standards to use as guidance in developing effective Business Continuity Programs, and to serve as a standardized guide in determining the quality and effectiveness of an organization's Business Continuity Program. The rush to meet has resulted in multiple sets of standards and benchmarks being developed both in the U.S. and around the world, such as BS25999 developed by The British Standards Institution; NFPA 1600 developed by The National Fire Protection Association (U.S.); and ISO/PAS 22399:2007 developed by the International Organization for Standardization. These are in addition to existing industry-specific standards, i.e., financial and health care, and are expected to be far-reaching in all business sectors. As a result there is some uncertainty as to which of these standards will become the most widely

accepted as we sort through the various voluntary and required certification programs and regulations to determine which will serve as our official yardstick to measure continuity sufficiency.

For now, organizations can voluntarily be audited and accredited against these standards. As with any non-mandatory certification process, there will likely be advantages for those who elect to utilize a certification standard. It behooves each business and organization to stay informed and to consider which certification is of the greatest benefit to them, as well as which standard may be preferred in its industry or by its customers and clients. Select a standard or standards that make the greatest contribution to your organization's Business Continuity Program and serve as a vehicle for ongoing improvement.

As with most other subject matter, business continuity and disaster recovery terminology and acronyms have developed and evolved over the years. These include:

- *Emergency Management*: A process within a comprehensive risk management program that includes all the components of the overall approach to managing major emergencies and disasters.
- *Emergency Preparedness and Response (EP&R):* Focuses on preparations to protect safety of employees and visitors when a disaster occurs; usually includes formation of employee teams who assist others when an emergency occurs.
- *Disaster Recovery (DR):* The restoration of an organization's technology to provide the IT, telecommunications, and related technology needed to support business continuity objectives.
- *Business Continuity (BC):* Continuity or rapid restoration of deliver of the organization's service or product following a disaster. (Replacing "Business Recovery" as the preferred term as the acceptable time in which to restore operations continues to shrink.)

There are differences in terminology among different types of businesses, between government and non-government organizations, and to a lesser degree from one geographic area to another. Of great importance is the need to standardize usage of the agreed-upon terms throughout an enterprise and to develop a business continuity glossary.

Over the years, the focus of disaster recovery/business continuity has changed. Originally focused on reconstituting the IT environment after a disaster occurred, we now look for ways to avoid and mitigate risks and to maintain or restore operations throughout the organization. This comprehensive approach also includes interdependencies outside the company, e.g., suppliers, contractors, and infrastructure.

Assessing Current Preparedness. Today's supply chain professionals need to have – at a minimum - an understanding of business continuity basics and their organization's business continuity approach and strategies, regardless of their level of active involvement in the planning process or their role in carrying out Business Continuity Plans. If you do not have primary responsible, know who does, what methodologies were used to create the business continuity program, and how it is tested, maintained, and updated. Ask to review the plan document and make sure your business unit's operations are addressed in the procedures. Was a hazard assessment conducted, and if so, what are the results? Was a formal business impact analysis conducted, what criteria were applied to identify the most time-critical business

functions, was your business unit included, and what are the results? In what timeframe will the IT systems that support your operations be restored?

Conducting a Hazard Assessment (aka Risk Assessment, Hazard Analysis). What is a disaster? We all deal with emergencies every day...no two are exactly the same in nature, magnitude, and the resources required to respond to them. Much of what each of us does on an ongoing basis is handle emergencies.

A disaster is something quite different. It may be a seemingly insignificant situation or an emergency that went unrecognized and got out of control or an unexpected serious event that struck suddenly and violently. Some impending disruptions may be known well in advance while others strike suddenly with devastating force. In either case it becomes a problem of such magnitude that it interrupts your company's ability to do business...to deliver your product or service. It may also threaten or severely damage your company's image, integrity, or reputation. Some of the hazards that may be potential disasters for your company are:

- Natural disasters: hurricane, earthquake, severe winter storm, flooding, tornado
- Lengthy power outage
- IT failure
- Violence in the workplace
- Fire
- Explosion
- Hazardous material incident - internal or external
- Terrorism
- Sabotage – external or internal
- Product tampering
- Organized labor action
- Pandemic
- Political risks (particularly when the supply chain goes beyond geographical borders)

From a supply chain perspective, any event that results in a significant disruption of transportation, loss of inventory, inability of suppliers to fulfill your orders, inability of your organization to fulfill customers' orders, and in an inability to communicate with customers, suppliers, transportation providers, or other stakeholders is likely to become a disaster.

The purpose of a hazard assessment is to identify the potential threats to your organization and to quantify their impact on your operations, facilities, people, and information.

Developing a hazard assessment for the supply chain may be as simple as gathering managers together and asking these questions, "What can go wrong that will keep us from fulfilling our mission – to deliver our product/service? How likely is it that this will occur? Has it happened in the past? What impact will such an occurrence have on our operations?" It is likely that 80 percent of the potential hazards will be identified through this simple process.

The results of the hazard assessment can be used to develop a mitigation program to eliminate potential disasters as possible, lessen the impact of those you cannot eliminate, and provide information that assists in the business continuity planning process. It will also identify the disasters that require the most immediate and extensive business continuity planning.

Once the greatest hazards are identified, there are options for controlling risks. Among the choices are: absorbing the risk, transferring the risk through insurance, or reducing the risk through mitigation. One of the four elements of a comprehensive a business continuity program, mitigation is ongoing actions taken in advance of a destructive or disruptive event to reduce, avoid, or protect against its impacts.

In creating a mitigation program the goal is to eliminate risks where possible and to lessen the negative impact of disasters that can not be prevented. Mitigation is as simple as fastening down computer terminals in earthquake-prone areas or moving computers to a higher floor where flooding is a potential threat to identifying and contracting with multiple suppliers for critical goods or materials, to relocating an operation from an area where the risks are extremely.

Mitigation steps must be based on common sense, and it is seldom that a mitigation budget is unlimited. First, target those threats that are the most probable and that will create the most harm. A simple cost/benefit analysis of possible mitigation steps will help in the decision-making process where funds are limited.

The Business Impact Analysis. A business impact analysis (BIA) is the foundation on which a comprehensive business continuity program is based. Its purpose is to determine the most to least time-critical business functions throughout the organization. For each of these functions a related recovery time objective (RTO), the target time in which each function must be operational following a disruption, is determined, as well as the related manpower and resource needs. For supply management a BIA will include a review of manufacturing, transportation, distribution services, support technology, warehouses, and service centers.

The BIA process typically uses a written or electronic survey or questionnaire often in combination with interviews of business unit heads. A review of financial records and process flowcharts is also helpful.

When conducting a BIA for the supply chain it is necessary to recognize both internal functions and external supply chain links. No single department or division delivers the organization's product or service, and within each business unit the level of criticality of functions (tasks) performed varies from extremely high to very low.

Of tremendous importance internally, particularly in service delivery businesses, are employee-related business continuity issues. This may include continuing operations even when employees can't make it to their usual business location. While more traditional business continuity gave great emphasis on the protection of data, information systems, and equipment, today's business continuity professionals agree that while data restoration is important, the greater issue is employee continuity. With very rare exceptions, data without employees does not fulfill customer needs.

No organization can deliver its product or service independently; there is great dependency on external components such as suppliers, transporters, contractors, and business partners. Most organizations have a complex supply chain that encompasses multiple supplies and services provided from outside the organization.

All touch points, both upstream and downstream, must be assessed when conducting your BIA. Supplier issues must be considered. Are there single points of failure – chokepoints? If a key supplier or service provider is hit by a disaster, how will it impact your operations? What if you ARE the supplier or service provider who experiences a disaster? Can you still meet your customers' needs?

It is important to be knowledgeable of your critical suppliers' level of disaster preparedness and the steps they have taken to prepare to continue business following a disaster that impacts their operations. When assessing suppliers, consider:

- Is a supplier your only source for a vital product or service?
- How critical is the product or service they provide?
- What do you see as being their primary risks?
- How financially healthy is the company?*
- What is their history?
- Do they have a business continuity plan?
- If yes, is the plan comprehensive and does it include staffing and operational continuity in addition to technology recovery?
- Is "we can handle it" an acceptable response to questions regarding their disaster preparedness?

*This criterion is of escalating importance in today's economic climate when previously financially robust companies may be suffering extreme financial setbacks and even be in risk of bankruptcy or sudden shutdown.

As part of the BIA process you may want to consider asking about key suppliers' and contractors' business continuity plans – and don't be surprised if your customers ask for information about your business continuity plan.

Plans typically contain proprietary, highly-sensitive information, such as names, contact information, addresses, applications, process flows, and business strategies. You want to avoid plan documents getting into the hands of a competitor, vandal, or even a terrorist, and your suppliers and contractors have the same concerns. So what do you do?

To meet both "the need to know" regarding the level of business continuity preparedness and the need to maintain confidentiality, here are some suggestions for what you may want to consider providing in response to a request from a customer or may want to accept to validate a supplier's business continuity program:

- A copy of your business continuity mission statement signed by the executive sponsor of the business continuity program.
- A certified, sanitized copy of the exercise / test schedule, an audit record of past tests and exercises, and a certified copy of the plan maintenance / update record
- Copy of plan table of contents, overview, and introduction

Another option is to let the requester read a sanitized version of your plan at your location without providing hard or electronic copy.

Developing Continuity Strategies. To begin developing your continuity strategies, again gather the supply chain managers for a brainstorming session to identify options for maintaining or restoring supply chain operations. "You arrive at work next week to find that the building is surrounded with yellow caution tape. You can't get in. How are operations impacted? Who are the most essential people needed to address this situation? What do these people need to keep the business running? Do we need to diversify any portion of our supply chain to avoid having all our eggs in one basket? If so, how will we accomplish this? What plans do we currently have to address this situation?"

Throughout the planning process, stay focused on the goal: keeping the organization operational by continuing or restoring critical business functions as identified in the BIA. Consider all the options. Think strategically; old solutions don't always work for new problems.

Among the things to consider:

- Is our transportation system sufficiently diversified? If not, what will we do if a disaster hits our primary carrier(s)?
- Do we use multiple transport companies on an ongoing basis? If not, is this an approach we need to consider to prepare for a disaster situation?
- Are documented procedures in place that will allow backup personnel to carry out critical business functions if the primary persons are not available or if we do not have full IT support systems? If not, how can these be developed?
- Do we have detailed procedures available to provide to new suppliers and transporters if necessary? If not, which ones need to be developed or enhanced?
- Is it possible to develop reciprocal agreements for sharing warehouse space, transportation equipment and personnel following a disaster? If this is a viable option, how can these agreements be arranged?
- Do our suppliers and logistics providers have sufficient business continuity capabilities? If not, what are our options?

What are your options? When developing strategies, consider the all elements of the supply chain, the people who are the most important element of the supply chain process, and the technology that supports supply chain operations. Consider the supply chain big picture, internal and external; plan for backups for all critical people; and understand IT infrastructure as it relates to the supply chain management systems. Know the level of disaster recovery planning that is in place to restore the IT support needed by the supply chain. Think out of the box; business continuity requires innovative problem solving.

Always keep in mind that the supply chain must avoid a silo approach to business continuity planning. Take into account warehouses, inventory control, transportation, and procurement/purchasing.

Consider all the options. For example, when developing business continuity strategies for critical suppliers, some of the options are:

- Select low-risk suppliers
- Have multiple suppliers
  - Identify an alternate supplier(s); give them a small percentage of your business on an ongoing basis
- Take another look at inventory levels
- Consider establishing reciprocal agreements
  - Beware of casual or verbal agreements
- Purchase the supplier

Another option, and perhaps in the long run the most effective, is for suppliers and customers to explore ways to partner in the development of mutually beneficial business continuity strategies. Doing so will almost certainly result in a win-win for all those involved.

Planning and the Plan: Documenting Your Strategies. It is common that those charged with developing their company's business continuity capability focus on "The Plan" as though the plan document is the be-all/end-all. Dwight D. Eisenhower is quoted as saying, "Plans are nothing; planning is everything." In business continuity, while comprehensive, well-written plans are a necessity, they must be based on a sound planning process.

While not a simple undertaking, business continuity planning will enable your organization to prepare for, respond to, and continue or recover operations following a disaster. The ultimate result may be the difference between the organization surviving and prospering or barely getting by or even no longer existing following a disaster.

In addition to the disaster-related benefits, the planning process may help pay for itself through day-to-day improvements. The examination and documentation of procedures accomplished in the BIA often identifies opportunities for day-to-day improvement, better use of shared resources, and possible elimination of duplicate resource costs. Developing a greater awareness of departmental interdependencies helps foster relationships between business units and builds bridges between silos within the organization.

The tracking and monitoring of problems in the hazard assessment phase and implementation of a mitigation program of can lead to threats being addressed before they become disasters. Cross training for better business continuity staffing helps develop more knowledgeable, better qualified employees and allows distribution of tasks as needed on a day-to-day basis.

While there is great value to be gained from the planning process, we do need a plan to document the strategies and procedures developed during the process. The plan becomes the operating manual when disaster strikes by providing the information needed to continue or restore operations. What is to done, by whom, when and where, and detailed, specific procedures will provide the direction necessary for appointed teams to keep the business operational or to get it back up and running in the shortest time possible.

Summary. More than ever before a comprehensive business continuity program that includes all internal and external links in the supply chain is essential if the business is to survive following a major disaster. For employees having a comprehensive business continuity program in place may mean protecting their livelihood and paycheck by helping to

ensure that the business will continue and thrive. Neglecting to fully consider the supply chain in the business continuity planning process will result in a business continuity plan that will likely fail when the next disaster strikes.