



Unit 10

Analyzing and Reducing Risk in the Supply Chain

Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Be responsible for managing supplier performance, including controlling quality and setting and monitoring standards

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Whose Risk Is It Anyway?

Risk Management in Context

A large company like Hewlett-Packard, who manages over \$51 billion annually across 180 different countries, will have a lot of influence over their 700 key suppliers. We can contrast this with a restaurant that has made a commitment to buying locally, requiring that their one owner (who also happens to be the purchaser) continually coordinates with approximately 40 suppliers.

Whether you are a large multi-billion-dollar company or you work in a local restaurant, procurement risk management is one way for you to emphasize a commitment to best practices within your operation. The old-fashioned way of conducting business has been that the supplier bears the risk, and the organization simply buys from the supplier. However, what we see now (especially with global enterprises and more stops along the supply chain between manufacturing and delivery) is that having the risk rest with the supplier is not necessarily the best strategy. When the supplier carries the risk alone, the relationship between supplier and buyer is based on transactions. We know that instead of just focusing on transactions, profitable and growing companies succeed when their relationship with the supplier is more collaborative than simple transactions can facilitate.

Applying the Concepts

Risk management is a topic that spans many different industries. For example, companies involved in building computers will require access to dynamic random access memory chips (DRAMs), which are a volatile commodity (where the prices can vary hugely from one week to the next). Using a risk management approach, the purchaser can structure arrangements with the supplier to guarantee the supplier a certain volume level. In return, the purchaser will ask for a maximum price or they may guarantee the supplier a minimum price in order to mitigate the effects of price fluctuations.

These risk management issues are enormous factors in maintaining a healthy supply chain. Consider, for example, when a major pharmaceutical wholesaler discovers that they have inadvertently been purchasing and distributing counterfeit drugs, and those actions lead to massive lawsuits against the company. Although some countries have strict regulations in terms of drug administration, the restrictions and regulations are not mirrored around the globe.

While technology is available to identify and track authentic products, there is still a significant problem with what is known as the secondary market. This term refers to small, loosely regulated wholesalers and suppliers whose products enter the mass market from time to time, sometimes to fill legitimate gaps during an inventory shortage and other times because products are priced so low.

The Digital Marketplace

Back in the late 1990's, during what we call the dot-com boom, practically every discussion about supply chain management included an evaluation of the essential nature of digital marketplaces. The premise was pretty simple: manufacturers would be able to purchase parts, supplies, and components directly off the Internet. There was no need to negotiate or work directly with the supplier, because in theory the transaction could take place instantly.

Of course, one problem here is that there is no relationship between the buyer and the supplier, so there is no opportunity for collaboration, best practices, and efficiencies to be developed. It didn't take long before software was created and made widely available to enable companies to buy and sell raw materials and other products in haste, but with a significant lack of trust or cooperation.

Agile Procurement

Coping with Complexity

The more diverse that the supply chain becomes, the more complex your work becomes. Many companies that step into the global marketplace for sourcing have experienced unexpected costs and situations, including natural disasters, livestock diseases, economic or political crises, challenges with learning about different cultures and business practices, and more. As a procurement manager, you will have to look at these and many other aspects of influence, or interference, within your supply chain.

To cope with volatility, the procurement manager must become more familiar with, and more responsive to, factors that they probably had not thought of yet. In some research, they refer to this responsiveness as **agile procurement**, which requires decision-making that is strategic (so that you build agility into the process) and operational (which refers to how to actually make this work). Since the procurement role looks at more than simply pricing, and priority has shifted to managing issues like volatility, scarcity, and disruption, being a capable forecaster is not enough. To demonstrate that you are truly flexible, the procurement leader has to exercise other elements of agility, including anticipation, adjusting reaction time, collaboration, and cross-functionality.

Case Study

In 2002, a port authority strike closed 29 ports on the West Coast of the United States. Hundreds of cargo ships were stranded out at sea for 10 days until the federal government stepped in, and by the time it was over, the estimated impact of the shutdown was about \$20 billion U.S. Walmart was one of only a few companies that anticipated the strike and the port closures. They took advantage of air freight to pre-emptively build inventories and protect their supply of goods before the shutdown occurred. Whether you love Walmart or cannot stand them, they made a very good business decision in that instance.

Using Multiple Suppliers

Another method of managing risk includes using more than one supplier to meet your demand. If a crop is destroyed by bad weather in Florida, and you have a secondary supplier in South Africa, then chances are you won't be missing too many orange shipments from your supply chain, or at least not for an extended period of time. However, if your only strategy is to pull 100% of your orange inventories from Florida, and bad weather knocks out

that crop, you could lose 100% of revenue for the entire year.

Building Agility

Building agility can be completed in three steps.

Define the relative uncertainty.

Consider two questions: how exposed are you to raw-material volatility, and how healthy are your suppliers? Answering these questions requires a solid analysis of warning signs, and a high degree of skill around issues like market price volatility; potential external events like natural disasters, war, and government regulations; and an understanding of the factors behind supply uncertainty.

Measure and quantify the risk.

Set your threshold for unacceptable risk, and anticipate beyond that threshold. The company must be prepared to take action. At this stage you can use failure modes and effects analysis (FMEA) to define response plans. Make sure that your risk tolerance (including financial strengths) is well understood. You will also need to make sure that the plan is understood by company stakeholders.

Establish cross-functional agile procurement teams.

Procurement won't be able to handle this function alone. Success at this level requires senior, cross-functional teams to determine the organization's priorities, while making it clear what role procurement should provide to best support the team. Failure to integrate this cross-functional team can lead to some expensive mistakes.

The most popular example of this is what takes place when procurement is not informed by the sales team about customer contracts, which stops the company from passing along increases in material costs. At such times, if procurement agrees to pay a higher price for materials to ensure availability during a volatile period, but sales is locked into nonnegotiable contracts, the company will have to take on the job of mitigating the supplier risk. On the other hand, if procurement had participated in cross-functional risk management, the other agile procurement members would have been available to define how to cope with that volatility and reduce the impact on the company.

A Risk Management Focus

The Categories of Risk

In his book, *The Supply-Based Advantage: How to Link Suppliers to your Organization's Corporate Strategy*, author Steven C. Rogers explains five categories of purchasing risk:

- Legal (anti-trust violations, contracts, etc.)
- Financial (price volatility factors, supplier financial health, surcharges and penalties, etc.)
- Operational (distribution, transportation, quality assurance, etc.)
- Regulatory (trade agreements, environmental and customs issues, etc.)
- Business environment (economies, security issues, competition, technology advances and challenges, etc.)

Each area of risk requires particular attention so that it can be properly managed and excessive risk can be mitigated. Again, collaboration is the best way through these issues. Having strong partnerships allows you to more

efficiently monitor changes, create workable contingency plans, set up strategies to share the risk with suppliers, and create an overall risk management plan.

Some important factors to include in your risk plan are those things which companies have learned by experience, over time. Risk management policies should be included in your purchasing policy manual and in your communications to suppliers, whether that is through a welcome package or something similar. This includes having assigned personnel operate as agents, authorizing them to sign purchase orders or contracts.

Additional risk management policies can include:

- Having suppliers register with the purchasing department when they enter your building
- Having the receiving department refuse packages that are shipped without purchase order numbers or proper documentation
- Not allowing employees to make personal purchases from a supplier

Sample Plan

Here is an outline that you could modify as your risk plan.

Supplier Failure

Issues like late delivery, poor service, frequent expediting, and other supply problems can be avoided through careful sourcing and evaluating suppliers' methodology and procedures. This section will outline the key risk factors, and should include remedies for failures to monitor supplier contract compliance and visit key supplier facilities regularly.

Inventory Levels

Regular analysis is essential to closely manage important items (particularly high-value materials or parts that can shut your operation down if they don't arrive), as well as less important items. Keep in mind those shutdown items do not have to be expensive; they could have a low monetary value and yet still be a critical component.

Single Sources

Any products that have only a single supplier must be carefully monitored and need lead time built in, so that the switch to a backup supplier does not interrupt operations. Many companies secure a prime supplier for up to 80% of their purchases and then have a backup supplier for the remaining 20%, along with an agreement that the backup supplier can rapidly increase production when needed (for example, in the case of a disaster in the primary plant).

Currency Price Volatility Risk

This section will include currency risks, which are a reality in our global business transactions. Make sure your contracts have appropriate language to handle fuel surcharges, total cost of ownership, and accounting. Include cross-functional teams to best manage costs.

Ethical Risks

The best code of conduct includes consistent enforcement. This will greatly reduce the risk of poor behavior, including accepting bribes, stealing, fraud, and other illegal and unprofessional conduct. Organizations must be ready to prosecute offenders, not simply discipline them in the workplace or fire them.

Natural Disasters

Buyers and key suppliers who are located in high-risk areas for storms and natural disasters must have disaster

response plans for all types of events. Contingency plans should include the identification of recovery teams, alternative sources of supply, and network communications (including collaboration with emergency agencies) so that work resumes as quickly as possible.

Best Practices

Ongoing training and strong communications will help to reduce internal risks, and good negotiating should lead to good contracts. And, it's worth repeating that the most important factor in reducing your risk is to set up proper sourcing.

Many experts support simulation exercises to test your contingency plans in the event of a crisis or disaster. Some organizations conduct these on a quarterly basis, especially during periods of volatility. These exercises will help you identify high-risk situations, suppliers, and distribution issues, as well as the ability of secondary suppliers to increase production. While the costs of having multiple warehouses, higher safety stocks, and backup distribution systems may be beyond what your organization can tolerate, once you calculate the risk with the probability of occurrence, duration, and your own ability to serve your customers, you will be in a position to determine what kind of risk management will actually be taking place.

It's important to recognize that there is no way to reduce risk to zero. You will have to caution your team and suppliers that being risk managers is essential, but there is no reward for paranoia that leads to paralysis. There are organizations that become so risk-averse that they miss their objectives and even underachieve because they are committed to playing it safe. As a team, you will have to determine what your tolerance for risk is like, and how to weigh that out in favor of meeting your objectives.

Further Reading:

- ✓ Semanik, John, and Fred Sollish. 2012. *The Procurement and Supply Manager's Desk Reference (2nd Edition)*. Wiley.
- ✓ Tate, Wendy L., and Council of Supply Chain Management Professionals. 2014. *The Definitive Guide to Supply Management and Procurement: Principles and Strategies for Establishing Efficient, Effective, and Sustainable Supply Management Operations*. Council of Supply Chain Management Professionals.