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Supply Chain Risk Management

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The term "logistics" refers to moving materials and services along their supply chains from their raw form to their final form as finished goods. To boost customer value and gain a competitive edge, businesses should implement supply chain management strategies that streamline their supply-side operations. Manufacturers employ supply chain management (SCM) to plan and execute efficient and low-cost supply chains.

A supply chain includes every step of the production process, from making the product itself to overseeing the IT systems that support it. Typically, SCM will work to centralize all stages of production and distribution under one roof. By streamlining their supply chains, businesses can save money and work more efficiently (Baldwin, 2012). Improving the accuracy with which the company tracks production, distribution, and sales are vital to reaching this level of efficiency. As its suppliers' stockpiles, in addition to impacting modern businesses, globalization has increased corporate processes' pace, intensity, and complexity. Successful organizations cannot function without their suppliers. Thus effective supplier management is crucial.

Some of the global market forces include growth in the global economy is a primary driver of increasing consumer demand. The International Monetary Fund predicts that the GDP of both developed economies like the United States, Japan, and Europe and developing economies like Brazil, Russia, India, and China will continue to grow in 2019, albeit at a slower rate than in 2018. When demand rises, supply must also rise to keep up. Increases in the cost of labor have, over time, contributed to price and supply problems in recent years (Baldwin, 2012). The high cost of labor has consequences for international trade.

Component Supply Limitations: Demand may far surpass supply, resulting in extended waiting times for essential goods. The lack of these components has a devastating effect on supply networks worldwide. Commodity Price Increases: Inadequate supply and rising raw material prices, prompted by general global economic considerations, have been essential contributors to current limitations and price increases. Discord over trade and tariffs worldwide has contributed to a tense economic climate and severe scarcity in recent months.

Consolidation of suppliers: The massive wave of merger and acquisition activity that swept through many industries in 2017 and 2018 was another cause of shortages. Because of all the mergers, fewer manufacturers are supplying goods to this market. This consolidation has lowered supply and altered the competing purchasers' bargaining power.

Chain development "Supplier development" boosts performance and fuels growth through tight supplier cooperation. Recognizing and adopting the Supplier's aims is critical. Many vendors form partnerships. Methodical supplier development can improve a supplier's performance or capabilities. Creating suppliers goes beyond contracts. Customers and suppliers can co-develop products (Cao et. al., 2010). A supply chain partner's current state must be assessed to achieve desired results. So, one can construct a growth baseline. The assessment includes determining on-time deliveries, faults, and pricing ranges. Choosing KPIs that matter might help evaluate a provider's ability to meet the needs. Supplier performance is evaluated using KPIs. One should evaluate the Supplier based on the identified KPIs and how urgently each area needs improvement. Let us say a factory's deliveries are often late, and the Supplier's prices are acceptable. One has probably experienced inconsistent delivery. Develop a problem-solving strategy. After identifying the significant flaws, one can help the factory fix them. Depending on the problem's severity, this may involve

bringing in an expert, offering more training, or establishing new procedures. In-person meetings with the Supplier enable problem-solving. Then, agree on a strategy to address the most critical issues.

Implement the supplier development plan. After identifying poor supplier performance, apply the plan. Continue monitoring the Supplier's KPIs. Keep track of progress to make more. After using this method on one provider, it can be used on others. Prioritize suppliers with strong supplier development ratings. Better long-term results from suppliers will benefit the entire firm.

Risks such as capital costs are encountered. Essential parts of a global sourcing selection's overall cost could be missed, causing considerable financial loss. Most sourcing decisions do not consider inventory concerns.(Rao & Goldsby, 2009). Poor quality is crucial. International purchase lacks quality control. Foreign vendors may have quality difficulties, including the inability to fix broken parts. Quality issues go beyond supplier capacity and affect internal costs like air freight. Global suppliers must attain high-quality levels quickly, notwithstanding the economic benefits of sourcing from a low-cost country.

The third main concern is protracted and unexpected lead times due to external causes like custom delays, port blockages, capacity limits, and geopolitical conflicts. Security threats Global sourcing experts are concerned about information security, infrastructure security, and freight incursions from terrorism, theft, criminality, sabotage, and piracy. Freight transport relies on public and corporate utility services, each posing unique security vulnerabilities. Such regulations could lead to missing or manipulated goods. Illicit usage, such as smuggling persons or weapons, is more concerning.

Strategies for suppliers include, Performance Metrics for Global Organizations and Total Costs. Decisions on where to source goods and services should be based on what is best for the organization, not a region's profitability. Global operations require a global perspective on supply and demand, transportation costs, and service and inventory issues. Adopting new sourcing measures that reflect global corporate landing costs and risks can reduce regional bias.

Landed-cost-based performance evaluation methodologies are gaining favor globally to break down regional isolationism and stress price (Frohlich & Westbrook, 2001). Long-term collaborations with overseas suppliers, quality training, and rewarding excellent performance help reduce cost-cutting. Management must connect with vendors to reduce quality and delivery risks and cut pricing. Abandoning unit cost is also crucial.

Internal-external harmony Internal and external integration is necessary for information flow and openness. If smooth, synchronized information about product flow across functional and organizational boundaries is obtained, risks can be detected, assessed, and mitigated.

Integration requires organizational and cultural transformations. Internal process integration requires a company-wide commitment to process excellence.

In training, it is essential to discuss evaluating suppliers' performance. Training and tools monitoring supplier performance based on order cycle duration and volatility help reduce operational risks. Most organizations in our sample monitored KPIs to hold suppliers accountable for lousy performance (Frohlich & Westbrook, 2001). Performance metrics should reward and encourage innovative ideas. Educating employees on the Container Security Initiative and the Customs-Trade Partnership Against Terrorism can reduce sourcing risks.

Risk Management and the Supply Chain

The risk in the supply chain is something that happens and at times, it is something that is completely unavoidable due to outside forces that affect the supply chain. When this happens, it is up to management to find ways to eliminate or reduce the amount of exposure to risk that a business has. These risks can come in the form of known and unknown sources that include things like supplier performance, forecast accuracy, execution issues, natural disasters, geopolitical risks, and epidemics (Simchi-Levi, et al., 2008). Even though supply chain managers have their plates full of so many things, it is up to them to make a successful supply chain by dealing with the known-unknown and known-unknown challenges that their businesses are facing.

Unknown – Unknown Sources of Risk

There is a lot of risks that are inherent in supply chains across the world and it is up to the supply chain managers to decide on how to properly deal with these risks. There are some risks, however, that is a little more difficult to deal with as these are the one that is unknown until they happen. These kind of risks come from sources that create disaster type effects within the supply chain and have the ability to wipe out years of revenue and can sometimes force businesses to be hurt so bad that it makes it so that they have to leave the region in which they are operating or even the market completely (Simchi-Levi, et al., 2008). Some unknown – unknown sources of risk include natural disasters, geopolitical risks, and epidemics.

Natural Disasters

When it comes to the unknown – unknown sources of risk, natural disasters are probably the most notable source of supply chain risks. This type of risks consists of earthquakes, floods,

fires, hurricanes, and tornados. A natural disaster will undoubtedly cause disruption in regional and global supply chains that can either postpone or pause deliveries, close ports, cancel flights, and even throw off the balance when it comes to supply and demand (Carey, 2018).

Although natural disasters have the potential to severely impact the supply chain, there are numerous things that supply chain managers can do to help mitigate the effects that the disasters have on the business. One item that is particularly important when dealing with disasters and their effect on the supply chain would be that of suppliers. It is important to know the suppliers that a business is working with and if those suppliers have a risk to natural disaster themselves. To add to this, it is also important to have backup suppliers just in case things go south with suppliers that are already within the business's network. This will allow for risk analysis to be completed for the supply chain that will keep products moving if a natural disaster strikes. By having multiple suppliers throughout the supply chain, both regionally and geographically, a business can protect itself from the effects that a natural disaster might have.

Geopolitical Risks

With all the political unrest that is going on not only in the United States but also globally, there is no doubt that this type of risk impacts the world of supply chain and the businesses that operate in it. Geopolitical effects on the supply chain include things such as port closures, embargos, and even war. When these things happen, international suppliers and manufacturers alike feel the effects. It is not, however, not impossible to detect and get ahead of geopolitical risks. In detecting geopolitical risks, the supply chain manager may notices that these risks can be either subtle or severe. In any event, businesses should measure all the

possibilities through the means of daily data collection for the analysis may indicate small issues before they begin to snowball (Caudell, 2015).

Epidemics

Epidemics are also considered an unknown – unknown source of risk. The issue that arises here is that the supply chain would not have access to or even from the affected area which causes a halt in the supply chain until the affected area is clear of whatever the epidemic might be is under control. This is done so that transportation and travel are halted so that the epidemic can be taken care of properly and has fewer chances to spread across borders. The key with epidemics is in creating redundant systems. This is something that can be accomplished by carefully analyzing the supply chain. Another item that can be investigated to lessen the effect of epidemics is to have several suppliers. This makes it so that businesses are not putting all their eggs in one basket.

Known - Unknown

The known – unknown risks associated with the supply chain are those risks that have not been accurately depicted by a risk management system but, for business, are expected to be there (Risk Management, 2012). These risks show up because of abnormalities in the risk model that businesses use. These risks tend to revolve around human errors and inefficiencies and are classified as normal risks in the business model. Some known – unknown risks include supplier performance, forecast accuracy, and execution issues.

Supplier Performance

Suppliers and their performance can have long-lasting, unfavorable effects on a business's supply chain operations. The goal of suppliers is to be able to get the products or materials to their intended destinations with little to no troubles with staying in the guidelines of

the contracts set forth by the parent company. This is something that does not always happen but there are ways to evaluate the processes of the suppliers to make sure they can get back to where they once were. Items that are the result of a supplier falling short of their obligations include missed delivery dates and products that are not of the quality that the parent company is looking for. To minimize the effects of poor-performing suppliers, the parent company can implement redundancy systems which can have the ability to offer security against this type of behaviors. If all else fail, contractual agreements are the best way to go when it comes to supplier performance. This goes beyond just a handshake as a written agreement is really the only way to legally enforce the accountability of the suppliers (O'Byrne, 2016).

Forecast Accuracy

Forecasting in the supply chain is probably one of the most important aspects that a business can do. If done properly, the business makes the right products, at the right time, and can deliver to the customer on time with no issues. If done incorrectly, the entire supply chain breaks down as it makes it difficult to execute the needs of the business and the demand of the customer. The thing to keep in mind, however, is that not all forecasting is the same. There are times in which the forecast concerns how much products business's suppliers can provide whereas, in other times, the forecast concerns itself with the demands of the customers. There are also times in which the forecast will look at both instances across the supply chain (Michigan State University, 2017). Accurate forecasting is essential in cutting costs for the goal of keeping the customer happy. It does this by helping businesses fill orders in a timely fashion, helps to avoid unneeded expenses in inventory management, and it helps to accurately predict price fluctuations that happen from time to time.

Market Changes

Changes in the market present some of the same risks as forecasting accuracy. If the market changes, regarding customer demand and swings the wrong direction, a business has the potential to lose a lot of money because they are producing products that are not sought after. To help combat the effects of market changes, Steve Rosvold (2013) suggests a business needs to adopt hedging strategies. Hedging tools can allow a business to hold the risks presented in the house or passed off to either the customer or other parties involved in the supply chain. By doing this, the business can still make profits although it can potentially put a negative image on a business if this type of practice has not been used before.

Conclusion

When it comes to business there are always going to be a risk. Whether these risks are unknown – unknown or known – unknown it is up to the supply chain manager to deal with these risks as they pertain to the supply chain and make the decisions that will either eliminate the risk or minimize them to the best of their ability. It is always a good thing to remember that when it comes to running a business that risks will always be present and having plans in place to deal with them is probably the most important thing that can be done as no business wants to be out of business because of something that was not seen coming.

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