GEORGIA HIGHLANDS COLLEGE Honors Option Final Report

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Supply Chain Risk Mitigation

Georgia Highlands College

MGMT 4900 Strategic Management Capstone

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Supply Chain Risk Mitigation (SCRM)

Supply chains worldwide struggle from similar risks such as constraints, shortages, and failures. Supply chains have multi-tier business models with several suppliers invested in a singular product. Supply-based transparency is difficult to achieve while identifying steps of a product's life cycle from raw materials suppliers to final assembly. Investing time into steps of a product's life cycle is typically not efficient and causes constraints. Knowledge of products within a supply chain leads to risks depending on a company's business model, international trades, and transportation. The scope of risks in a supply chain is the most intimidating factor and can range from supplier disruptions to irregular weather patterns. Risks also include data restrictions and limited supply purchasing and procuring visibility. However, there are several ways supply chain managers recognize and mitigate risks, starting with identifying and documenting risks. Supply chain specialists can interpret business management and framework ideologies for process improvement by identifying risks. Building frameworks for SCRM is aided by various models, risk management methods, and changes in process ideology. In addition, International Organization for Standardization (ISO) certifications provide companies the opportunity to address and mitigate risk within internal operations. The result of effective and efficient implementation of risk management values will create little to no risk for small and large companies within a supply chain.

External and Internal Supply Chain Risks

Many factors often cause disruptions and conflicts within a supply chain. All these setbacks and limiters can be categorized under external and internal risks. External risks are out of the supply chain manager's control, while internal risks are within control. An example of external risks could be demand risks, supply risks, and environmental risks. Demand risks are

defined as a customer being misunderstood or unpredictable. The result could be a loss of profit should the amount a customer is willing to pay is too high. Supply risks are associated with interruptions to the flow of a finished product regardless of whether it is from an early-stage raw material to a final product. A supply chain disruption can disrupt business, resulting in liabilities, quality issues, and a stained company's reputation. Finally, environmental risks come from social and climate factors related to the supply chain. Typically, environmental risks include work environments, land use, and climate variables. While external risks play speculative roles in supply chain operations, internal risks prove to be more easily predictable yet just as complex. Internal risks come in the form of manufacturing risks, mitigation and contingency risks, and cultural risks, to name a few. Manufacturing risks are caused due to internal operations having bottlenecks in processes, intellectual property being stolen, and cyber risks. Each risk is within the company's control based on management styles, the focus on security, and the trustworthiness of employees in the company and third-party vendors. Management styles, process bottlenecks, and employee trustworthiness often cause contingency issues that should be addressed. Contingency plans are put into place to limit risk exposure and operational constraints. Often referred to as a mitigation plan operationally, the attempt is to decrease the risk's chances of internal risk by putting contingency plans to limit risk exposure. Finally, cyber risks take down internal systems that limit throughput in an operational system. Cyber risks also expose a business's information or communication platforms, resulting in loss of profits and damage to the company's reputation. Cyber risks and process risks often cause the most supply chain disruptions. The result is supply chain methods and practices that help internal and external risks. Supply chain risk management (SCRM) aims to help improve operational performance so that companies are shielded and limited from potential risks (Munir et al., 2020). However,

SCRM is not the only way a company can mitigate the risks which affect the supply chain. Processes that involve supply chain integration (SCI) aim to bring all supply chain parties together to be integrated into a singular system (Munir et al., 2020) prove beneficial. The result is a visual and operationally sound system but requires significant coordination and alignment to ensure things are as effective. Finally, regardless of the nature of the risk, aspects can be mitigated by implementing effective processes and management methods to help flow a company's operations.

Supply Chain Visibility

Supply chain visibility (SCV) plays a crucial role in internal and external risks related to materials, components, and products in transit from origin to destination. Modern supply chains have become more complex as they rely more on supplier networks than their internal networks. Transparency is vital to the success of customer and supplier relationships and will help boost process efficiency and profit margins. In addition to supplier visibility, stakeholders want realtime data to make educated business decisions that affect how well a company operates. By making the data associated with the transit of materials, components, and products readily available, supply chains are strengthened as stakeholders can make more decisive decisions. However, making data readily available is often difficult due to companies outsourcing their needs. Often a significant risk, supply chains outsourcing parts of their operation decreases control and visibility. Companies that outsource can benefit, assuming good management teams are used to track the process, transportation, and other features. However, companies still struggle to maintain visibility and operational shifts show that. Technology often plays a pivotal role in business decisions and how management teams move forward. Technology that helps provide accurate depictions of real-time data such as demand shifts and inventory levels

associated with suppliers has proven beneficial to supply chain managers. Technology aids in knowing cargo locations, auditing records, and activities associated with supply chains. Knowing cargo locations helps with scheduling and purchasing visibility, which benefits customers and profit margins. In addition, shipment visibility helps internal and external stakeholders stay updated on profits and expenses associated with scheduling and repurchasing materials. However, auditing records provide an in-depth look at the scheduling process while maintaining records of past and planned purchases.

Technology blends with auditing processes by keeping files and records, which allow supply chain managers to review and validate past completed orders and view future planned orders. Better transparency within the auditing process makes complying with business and environmental regulations more smooth and straightforward, essential for supply chain managers and their operational approach. Lastly, supply chain activities can include tracking bills, deliveries, quotes, and customer orders which is invaluable to information organization. Tracing every step of a supply chain's activity allows managers to pinpoint and react to any problems. This reduces complexity and extends insights across diverse and complex networks while benefiting customer satisfaction. In addition, international supply chains deal with regulatory requirements, trade agreements, transportation, procurement rules, governmental restrictions, and tariffs. Improving supply chain visibility helps monitor and manage several aspects while benefiting competitiveness within the supply chain (Sompa et al., 2018). Spotting and fixing efficiency complications while mitigating constraints allows companies to stay competitive and effective within supply chains.

Logistical and Environmental Constraints

Often, supply chain managers deal with several logistical constraints and issues that limit a company's effectiveness. The logistical problems can start within warehousing networks or environmental disruptions like poor weather conditions. Warehousing networks are intricate and involve many moving parts from an operational perspective. As a result, misplaced packages and products, packaging complications, shipping mistakes, and damage are time-consuming and costly. However, supply chain managers have begun incorporating technology like automated picking and packaging processes, system checks, and streamlining that help warehousing networks perform at a higher efficiency rate. Although warehousing management errors occur frequently, delivery delays also threaten logistical concerns. COVID-19, port capacity issues, protests, labor issues, and any disruptive event can create delays in material and product delivery. These delays often create a global supply chain problem that constricts and bottleneck entire product and service lines. Despite the setbacks, it is imperative to know potential risks as there should be contingencies in place should they escalate. As the logistical world becomes more integrated, staying familiar and up to date with technological solutions will aid those pressures. Companies have created last-mile and cross-docking facilities that help with delivery delays and product distribution should any potential risks occur. In addition, last-mile and crossdocking facilities help companies save transportation costs which usually add up quickly. Cutting transportation costs is a crucial challenge for companies and primarily deals with supply chain management teams. Fuel costs can also create a level of risk depending on current events and political constraints that are often out of the control of supply chain managers. The result is ensuring transportation costs remain low and creating creative solutions and answers at all levels of logistical planning stages. However, companies can attempt to consolidate shipping and maximize all available space in transport, resulting in reduced costs and transportation

requirements. However, this method involves effective communication with carriers and thirdparty logistics companies. The simplest yet most risky way a company can reduce transportation costs is by letting third-party logistics companies handle their transportation needs. It means the company is letting go of its logistical control and creating more risk for the supply chain. Often, third-party logistical companies shoulder the responsibility for any constraints and setbacks during the transportation phase. Included is an environmental issue that may arise that would damage the reputation of the third-party and damage relationships with other carriers. Many environmental constraints relate to weather setbacks, pollution concerns, and restrictions. Often, weather causes the most significant headache to a transportation process as it creates delivery delays, financial setbacks, and a damaged reputation. Snowstorms, hurricanes, and other environmental events cause companies to overspend and compensate for the delays. Doubling transportation needs, compensating customers, and other financial setbacks will set a company back substantially and potentially bankrupt them. The transportation process must also consider pollution limitations and restrictions cities implement to reduce fossil fuel expenditure and road hazards such as spills that could cause damage to the environment. Supply chain managers handle environmental constraints vary depending on the solution needed. Fleet management optimization, eco-friendly procurement policies, and sustainable warehousing are methods used by supply chain managers to reduce environmental concerns. Regardless of the solution, supply chain managers and logistics managers must stay creative and capable of problem-solving at a moment's notice to avoid potential setbacks environmentally or logistically. The risk can cause an intense financial burden on the company and potentially choke and damage the supply chain.

Supply Chain Risk Management

Companies face several bottlenecks, constraints, and other negative impacts daily. The most frequently identified negative impacts are counterfeits, tampering, theft, poor development, and manufacturing processes and practices. Where companies identify various forms of risk, some of the ramifications are data loss or monetary loss and can compromise the integrity of the product and company. The worst, legal exposure and loss of life can seriously threaten a company operationally and financially. While these are all risks with any supply chain, some practices that are part of supply chain risk management (SCRM) can be implemented. Companies take specific actions to protect their own business and operations by implementing better process operations, improving safety teams and features, and streamlining their operational paths. However, a business faces several risks associated with its vendors, suppliers, and other outside entities. What makes SCRM difficult from a supplier's perspective is that they may not offer various transparency into their business operations and policies. Visibility is an essential part of risk assessment and what that supplier could potentially bring to a business. Pair supplier risk to a business' own operational risk, SCRM provides a connection and potential answer to many risks associated with problems a business might face. Managing risk begins with implementing distinct types of strategies to mitigate risk. Operationally, a business should internally develop a criterion for constituting a risk and prioritize certain risks depending on operations. Once a company establishes its risks, it can undertake risk identification which involves risk analysis and risk evaluation internally and externally. Risk identification can touch on external risks such as natural disasters and accidents while also touching on the supplier, distribution, and internal operational risks. A company can prioritize risks from their likelihood of occurring and causing disruption in their operations.

A company can then begin risk treatment plans tailored around preventing and mitigating risks that pose a threat. However, the implementation of SCRM practices requires continual communication and constant reevaluation and review. As a result, solutions include reassessments and reviews tailored to the changing nature of the supply chain, suppliers and regulations that impact operational perspectives.

Risk Mitigation Certifications

Companies can employ SCRM practices, but with the addition of International Organization for Standardization (ISO) certifications, they can elevate their operations. ISO 31000, also known as risk management, consists of 31000 updated principles like 31000:2018 and ISO Guide 73:2009 (Dellana et al., 2019). Consistent updates and adjustments to the ISO 31000 methodology ensure that companies looking to implement the certification are taught the best practices and principles for risk management. However, the implementation requires fierce commitment and leadership dedication to ensure effective results. By aiming to simplify risk management, ISO 31000 sets clear and understandable guidelines that are straightforward to implement. Fortunately for any company, regardless of size, operations, and location, the certification improves results and mitigates risk. Implementing risk management frameworks regardless of company size or nature consists of three key concepts to talk about potential events, the probability of that event occurring, and the severity of the outcome. However, ISO 31000 defines risk differently, but older risk management frameworks are still broadly applicable and valuable in an ISO 31000 risk management operation or system. ISO 31000 focuses on the company's goals and outcomes, whereas traditional risk management frameworks focus more on adverse events and probabilities (Tranchard, 2018). To add, older risk management frameworks focus on the quantification of risk.

In contrast, ISO 31000 focuses on conceptual definitions of risk, tied in with higher-level concepts of business operations and objectives. A benefit comes in the form of stakeholder trust and improves company culture, creating a better profit probability while making room for potential growth of operations. However, some companies aim for improved quality management systems that usher in the ISO 9000 family framework. ISO 9000 aims to ensure companies meet the expectations and needs of customers while attempting to meet any other stakeholder needs. There are several principles companies must go by to be ISO 9000 certified called QMP (Quality Management Plan). It begins with customer focus, leads to leadership commitment, and ends with effective decision-making and relationship management. Altogether, ISO 9000 includes seven QMPs to improve companies' quality both internally and externally. Companies can look to several types of ISO umbrellas. However, the International Organization for Standardization does not certify the companies themselves, which means that companies must look to certification bodies that will audit their success and effectiveness. Upon completing the audit, ISO 31000 and 9000 compliance certifications can be introduced by the company to stakeholders. The result provides companies with an advantage over other companies and improves the attractiveness for other companies to do business.

Conclusion

Supply chain risk mitigation provides solutions to potential problems that a company faces. Whether it is the evaluation of current risks internally and externally or being aware of suppliers' risks and operations, a company benefits from introducing SCRM tactics and principles. Effective management implementation of SCRM will reduce internal risks and provide crucial awareness of external risks that cause harm to the supply chain. Adding ISO 31000 and 9000 certifications to a company will benefit its external business deals and improve

its operations. SCRM covers a broad range of topics that can be identified for use depending on current risk assessments within operations.

It should be noted that the implementation and commitment to any SCRM tactic or principle are subject to change and be different instead of universal. Each business will have its own set of challenges and risks that depend upon the operations. However, having an effective management team that implements SCRM and ISO principles can be crucial to supply chain stability and profitability (Dellana et al., 2019).

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Supply Chain Risk Mitigation

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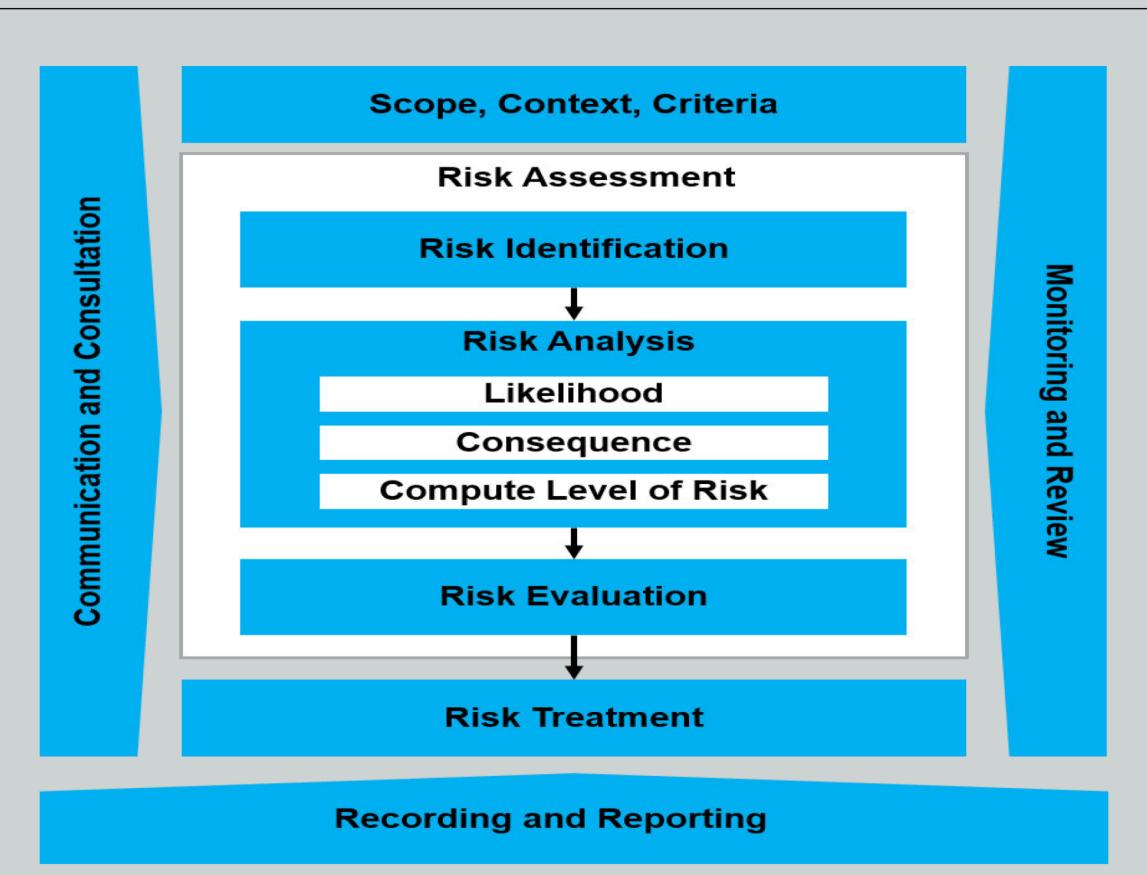
Supply Chain Risk Management

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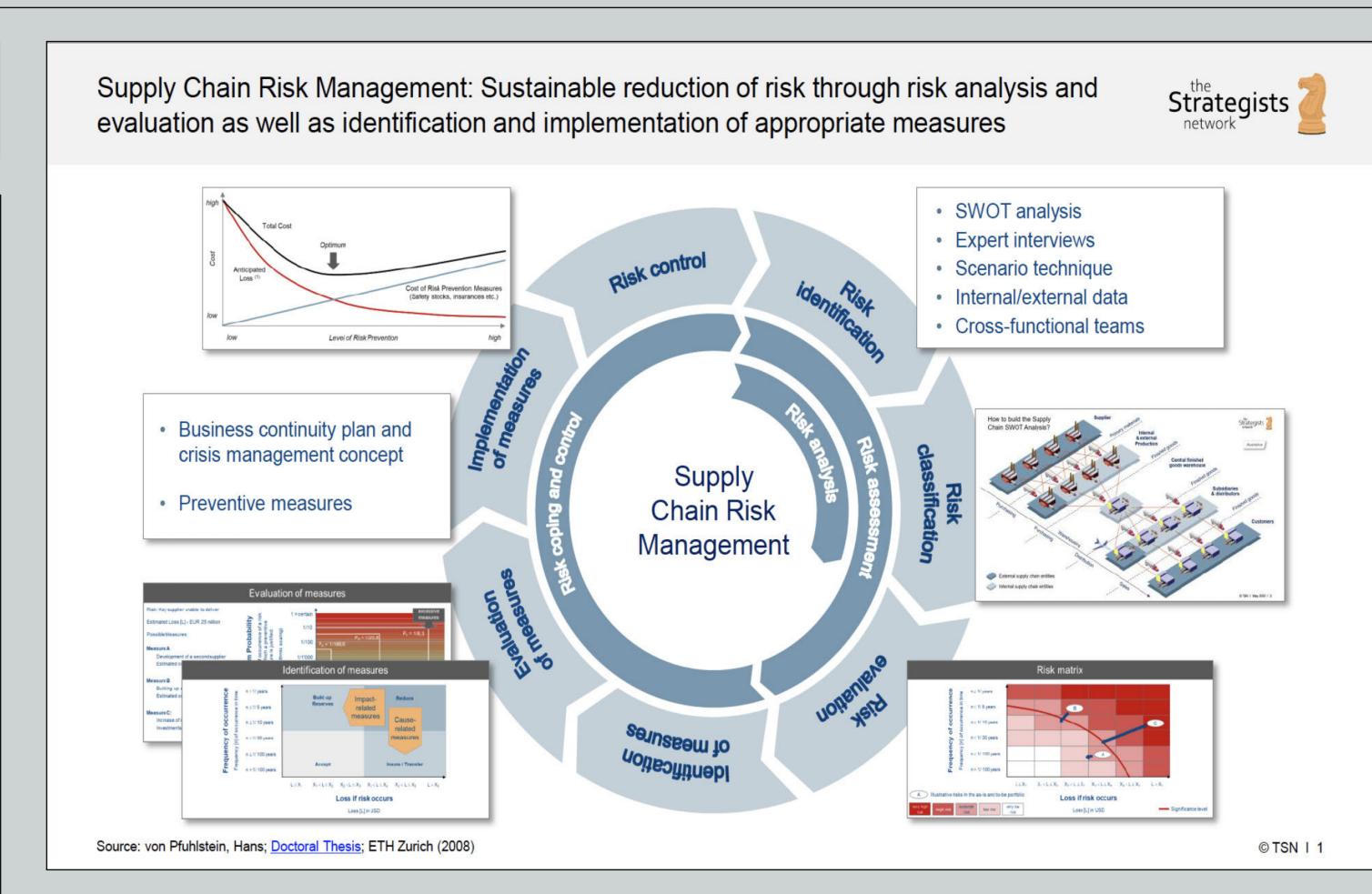
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