Essay on risk management and the supply chain

Business, Company

Advanced supply chains are highly complicated with parallel physical and data flows taking place so as to pledge the delivery of products in right quantities, at the right time to the right place in a cost-efficient mode. In recent years, the cause for more effective supply networks has led to these networks becoming more prone to risks and disruption. Specifically, there often tends to be shortage of resources in the organization to " buffer" disturbances in supply and hence any interruptions may have an immediate impact throughout the supply networks (DecisionCraft, 2010).

Risk situations are categorized as " known unknowns" or " unknown unknowns". " Unknown unknowns" are risks that cannot be identified and explained, whereas, " known unknowns" risks are those that can be identified and recovery preparations can be made for them.

Recovery planning for " unknown unknown" risks is based in management reserves which are under the power of the senior management. Supply chain risks can be termed as the damage- measured by its likelihood of occurrence – that is driven by an event within an organization, with its environment or its supply chain thereby imposing a great negative impact on the business processes of at least one organization in the supply chain. For organizations, the " unknown-unknown" risks pose serious threats on its supply chains since the management does not make advance planning on unknown events. There will always be " unknown unknowns", newer risks originating. A formal and well structured risk assessment will aid the organization in uncovering some of the " unknown unknowns" and plan accordingly.

Unfortunately, it is almost impossible to prepare for mega-disasters such as hurricanes since there is extremely limited experience to draw on. Likewise, a SARS outbreak like the one occurred in 2003 has the power to shut down the flow of products and components from the Far East to the rest of the world, which is again difficult to make arrangements due to lack of information. Because of their nature, the unknown-unknown are unmanageable and very difficult to control.

There have been speculations about whether or not there are strategies that an organization can apply to handle the unknown-unknown. Regrettably, these are the sources of risks which may produce a mega-disaster " that can not only wipe out years of profit but also can force a company to exit a certain region or a specific market" (Simchi-Levi et al, 2008).

The next part of the essay discuses the methods for effective management of supply chain risks and particularly, the strategies for controlling the unknown-unknown.

As the methods will be described below, an efficient use of these techniques will enable the supply chain to recover from a disaster, thereby creating the alleged ' resilient supply chain'. Moreover, every technique throws light on varying supplying chain dimension. At the design stage, redundancy is built. Accurate data is needed for sensing and responding in a timely manner. Lastly, a supply chain wherein all of its components have similarity in culture, objectives, and benefit from financial profits is said to be an adaptive supply chain.

These methods are:

Invest in redundancy: A primary concern in risk management is to craft a supply chain in such a way that it can efficiently respond to unpredicted events, the unknown-unknown, in a cost-effective manner. Redundancy can be achieved through measures analysis of trade-offs in supply chain costs in order to obtain its appropriate level within the supply chain.

For example, the world-wide supply chain of a consumer packaged goods firm based in U. S. had nearly 40 manufacturing plants all across the globe, with demands for its consumer products, goods, etc. spread over several nations. In 2001, the management decided to reduce its networks and shut down unproductive manufacturing plants. Initial assessment suggested that the company could cut costs by $40 M annually by closing 17 of its operating manufacturing plants, and running the existing 23 facilities, whilst meeting the market demand globally (Simchi-Levi et al, 2008).

Unluckily, this new supply chain structure experienced two crucial cracks. Firstly, no facility was now operating in Europe or North America, which lead to lengthy and varying lead duration. An increased resource levels is needed for such lead times. Additionally, the remaining plants in Latin America and Asia were all operating and utilized and therefore any disturbances in supply from these nations, because of geo-political issues or outbreaks, will be unable to fulfil several market regions.

As a remedy for such a situation, the company decided to analyse the cost trade-offs. The firm determined that shutting down 17 facilities and operating 23 will significantly reduce supply chain prices. Nonetheless,

keeping 30 plants open instead of 23 will heighten overall cost by approx $2. 5M and simultaneously increasing redundancy. Therefore, although the risks linked to geopolitical problems or outbreaks cannot be measured, a supply chain for supply interruptions can be prepared by investing in redundancy without the need to increase supply chain prices.

Increase velocity in sensing and responding: To illustrate this method, we can take the example of the different responses of Nokia and Ericsson on a fire that broke out in Phillips factory in New Mexico that sells various types of radio frequency microchips to be used in cell phones. Following a lightning that struck its plant in 2001 and majority of the silicon inventory transformed into ashes, Phillips had to close its plant for few months. Nokia, on detecting delays in incoming orders, opted to monitor the incoming orders on daily basis, when the firm could not communicate with the plant. On receiving confirmation from Philips that Nokia’s orders will remain disrupted, Nokia immediately changed its product design to buy chips from other suppliers. Along with a 5-day delay, Nokia realized that Philips-made components could not be purchased from its competitors. Hence, Nokia bought these components from two Philips plants in the Netherlands and China. Ericsson, on the other hand, experienced a loss of up-to $1. 68 B as it failed to realize the severity of situation on time, Nokia already buying the alternative supply of microchips, due to marketing issues etc. Ericsson finally had to exit the mobile phone industry (Simchi-Levi et al, 2008).

Create an adaptive supply chain community: Adaptability is considered the most difficult risk management technique. The method needs the same

culture, objectives to be achieved and gains from monetary profits to be common to all supply chain components. As quoted by Simchi-Levi, et al. (2008), “ Indeed, it creates a community of supply chain partners that morph and reorganize to better react to sudden crisis”.

Although supply chain risks will most likely paralyse majority of supply chains, the situation is still not hopeless. Successful organizations are those which break the risk spiral and repair the supply chain in a cost effective manner. The gains are much more than just cost reduction; the reduction of problems results into increased sales and market share, insight into new markets, and rapid new product launches.

References:

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