Analysis of VUCA drivers improving supply chain in crisis like Covid-19

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Abstract

When crisis like Covid-19 occur in society, Companies face challenge to supply the essential commodities. At this juncture only to meet this challenge is to improve supply chain performance using behaviour science in effectiveness of his works in Field. Volatility, Uncertainty, Complexity and Ambiguity (VUCA) drivers are increasingly used to describe current business environment and its impact is on supply chain performance. Analysis and improvement in VUCA drivers can make efficient and effective.

Introduction

Inventory management of company basically depend on supply and demand and its basic tool is supply chain i.e. distribution system door to door. At any crises like Covid-19, company faces problem because demand of certain items increases rapidly and its supply need certain safety protocol. Miles (2011) suggested that volatility, Uncertainty, Complexity and Ambiguity (VUCA) drivers are considered to provide an accurate description of the current business environment and it has direct impact on managing the supply chains. Volatility can be taken as change in states per period across processes, Uncertainty can be defines as the lack of information concerning the present or future states of certain process and this directly impacts the flow of cash and resource across process, Complexity refer to as the amount of variety at and across process and Ambiguity is the stage where absence of clarity about available information and suitable responses. Sullivan (2012) claimed that VUCA can be taken as tool where business environment is dominated by fast change of things in non-predictable trend or repeatable pattern. In context of inventory management business undergoes leadership perspective and financial perspective. From leadership perspective volatility refers to rapid rate of change experienced and imposing great pressure on leaders to respond urgently to such

change. Now how the leaders manage such difficulty and take decision goes to uncertainty. If leaders are encountered by situation where there are a wide range of factors to diagnose a situation and formulate effective response and action is complexity. Ambiguity refers to lack of clarity in a way that interpreting the impact and meaning of events become quite difficult. From the financial perspective Volatility refers to equity, bond and currency market volatility. Uncertainty refers to the potential change in the inflation index calculation. Complexity refers to state of understanding to increasing complexity of new financial investments and regulations to deal with complex market. Ambiguity referred to the overall output resulted from the above three drivers.

Methodology

An overview of VUCA concept and its drivers are explained. How VUCA concept can improve a supply chain performance is discussed. Analysis of VUCA drivers is considered for supply chain impact.

Analysis of VUCA drivers for supply chain performance:

1. Volatility analysis

Maintaining better performance of supply chain, volatility may be taken as economic volatility and demand volatility. Economic volatility highly affects supply chain of companies across industries. During crisis like Covid-19 rapid change in availability and price of key accomodities, major currency fluctuations, descriptive geopolitical events and continued development of customer channels are in global basis. Such economic volatility can be used as a competitive advantage and making ability of their firms to be more agible in a way that will turn volatility into an opportunity rather than a threat. These few strategies can be used to manage volatile demand efficiently in supply chains.

(i) Evaluation of the trade-off between the cost of using the capacity buffer strategy and the cost associated with the lost sales due to missed service targets.

(ii) Maintaining reliable relationships with their subcontractors.

(iii) Reducing total supply chain cycle time which is cumulative sum of the production time, transportation time and planning cycle time across supply chain.

(iv) Follow strategy of Make- to-Stock production to Assemble-to-Order production.

(v) Maintaining collaboration between suppliers and customers.

2. Uncertainty Analysis:

The uncertainty is lack of information concerning the present or future states of certain processes that most likely will affect the flow of cash and resource. Uncertainty may be endogenous and exogenous. Uncertainty may be managed according to supply chain in process, supply, demand and control. These few strategies can be used to manage uncertainty.

(i) Total quality control, New product design and supply chain redesign.

(ii) Improving the performance of value added process through lead time reduction.

(iii) Co-ordination with suppliers.

(iv) Postponement, delivery flexibility, Process flexibility, customer flexibility, multiple suppliers, Strategic stocks, ICT management and financial risk management.

3. Complexity Analysis

Complexity is coherent feature of supply chain complexity (SSC) can be classified as detail complexity and dynamic complexity. Detailed complexity refers to exact number components or parts whereas dynamic complexity refers to lack of predictability in systems response towards input. These aspects are needed to manage complexity in context of supply chain.

(i) Diversity in the Homogeneous or Heterogeneous system.

(ii) Interdependency which is directly proportional to complexity.

(iii) Variability which make rapid change of elements over a period of time.

(iv) Variety which define dynamic behaviour of system.

(v) A four stage complexity management model is identifying, measuring, analyzing and controlling of complexity.

4. Ambiguity Analysis

In the context of risk or decision-making, ambiguity is viewed as the unknown possible outcomes while in an economic context, ambiguity is defined as lack of understanding that drive risk. Managing ambiguity requires sharing accurate and correct interpretations across processes. Coordinating with those who are aware of languages and system and reviewing unexpected variances are best measures to manage ambiguity.

Conclusion

The significance of VUCA terms in business directly affect supply chain performance. Analysis and improving VUCA drivers can be used in high quality of supply chain and inventory management in future.

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