



## **SCM Practice And Its Impact on Business Environment**

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### **ABSTRACT**

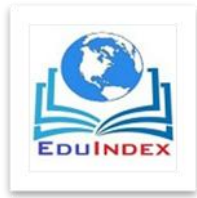
*SCM, endeavors to make the correct thing available at the correct place at the correct time, along with obtaining profit maximum possible. It is the effectiveness and efficacy of the supply chain which lays influence on an organization's overall performance. This effectiveness and efficacy depends on several factors which are included in the entire production process of goods and services and its management, like, suppliers from whom materials are bought; place and process of storing inventory, cost-effective and timely distribution of products and/or services, and method and time of making payments. This paper's main aim is to study SCM processes & practices and the influence it lays on profitability, turnover and sustenance of a business.*

### **KEYWORDS**

SCM practices, Food and Grocery Retail, Indian business environment.

### **INTRODUCTION**

Several researchers have construed SCM, and according to Ganes and Harris (1997), SCM is a network of conveniences and options in context to distribution of products or services which begins from procurement of materials, includes its conversion into unfinished and finished products, and finally distributes the finished ones to end customers and unfinished ones as intermediaries to final producers. As per Lee & Corey (1996), SCM includes all those integrated activities happening within the supply chain network, i.e. procurement of raw material, transformation into products and/or services, and delivery to the end consumers through a formal channel of distribution. Christofer (2008) clarified that a supply chain involves various organizations, linked to one organization, upstream and/or downstream, involved in different activities or processes that finally create some value in the form of any product and/or service, and makes it available in the hands of the ultimate user. Thus, SCM is a systematic and strategic management of the customary business functions and the involved tactics, within a company to ensure proper planning and coordination between different parties – internal or



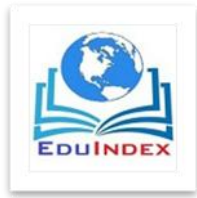
external to the business – with an aim to ensure flawless supply of functions and enhance the long-term performance of that individual company.

World today is persistently developing and side-by-side; it is influencing companies' way of conducting the businesses. A company's success largely depends on innovatively expanding the supply chain strategies, which in turn not only drives continual improvement in a company's workings and assists it to win in forthcoming situations, but also helps make money in future from the information obtained. It has been observed that SCM practices enables the top-most companies of the world in realignment of their supply chains as per the paradigms of the flat world by offering solutions relating to the functioning of the company in context of demand forecasting, supply planning, sourcing & procuring, executing of the supply chain and managing the assets of the company. Hence, it is now mandatory for the companies to administer its supply chain which would not only help improve the customer side of the company, but also help maintain a balance between costs and benefits, thereby giving the company a competitive edge. Overall, SCM is focused towards bringing all the parties – manufacturers, suppliers, transporters, distributors, warehouses, retailers and customers – into one unified dynamic process based on steady flow of products, funds and information.

## LITERATURE REVIEW

Conventionally, it was the manufacturers who were regarded as the drivers of this chain. They were accountable for administering the velocity at which the products were produced and further dispersed. With persuasion from marketing and distribution management, purchase and material management, haulage and logistics management, and operations and information technology (IT) management, various aspects melted down into one pot, i.e. SCM. Idyllically, the all-inclusive SCM philosophy encompasses each of these aspects of business to derive such supply chain strategy that eventually augments an enterprise's performance. It was in the 1980s and with the commencement of warehouses and non-asset based carriers, and its management, that the specialism within the chain began because these were beyond the scope of transportation and logistics, rather within the aspects of supply chain management.

These days, producers are scuttling to meet the demands of the customers in context of options, features, styles, and fast execution and fast deliverance of orders. It was long back that manufacturing quality was treated as the differentiator between competitors. Today, this factor is reaching parity; thereby making fulfillment of consumers' demands regarding product delivery, as the next critical factor for competitive edge in the market. Companies focusing on improving the SCM shall write the stories of their success in the



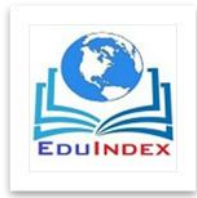
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coming time. Numbers of transnational companies, from 1995 to 2010, have increased more than double. Not only have the supply chains spread geologically, they have also engrossed more and more companies, of which the most companies expect increase in the number of mutual relationships with suppliers and other third parties, so that a wide range of activities can be outsourced (Corsten & Kumar, 2005). However, it is equally essential for the supply chains to keep track of and pace with the swiftly mounting and equally constricting product portfolios. Conversely, the supply chains cannot compete with cost volatility, and hence, the companies have now positioned cost containment as their prime responsibility towards the businesses, apart from growth of the enterprises and innovation in its product/service portfolio.

As and when the supply chain moves towards its final consumer, each of the intermediate members in the chain performs its specific value-added task in context to the product or the service it is related to. As per Mowat & Collis (2011), SCM is principally concerned with considering and meeting the final consumers' needs in such a way that the value offered to the customers is optimized as well as returns offered to all the stakeholders in the supply chain is improved. While some researchers stated that it is the responsibility of the SCM practitioners to sustain and uphold a culture which is customer-focused; some others stated that SCM's basic aim is to match as per the customers' requirements. However, as per Taylor (2007), focusing on customers at the closing stages of the entire supply chain is one of the two important aspects of SCM. With the practice of outsourcing gaining prominence, SCM continued to develop throughout the 1990s. SCM being consumer-driven, it is essential that its necessities, with minimum possible wastes and defects, are swiftly and exactly met. Overall, the quintessence of SCM is synchronization and incorporation of diverse processes – both upstream as well as downstream – in the chain.

The focus of SCM, from the point of view of transportation and logistics management, was on diminution of inventories in the supply chain, both within as well as across the organizations, and also on improvement of the level of the service. With the evolution of new global markets, supply chain managers are continually facing dynamism, competition and thus stressful environments. It was no longer a good option to deal with the conventional and customary tradeoffs, and hence companies were searching for ways and strategies to optimize their supply chains. Since each and every company had its own goals and priorities, hence supply chain varied across organizations. Apart from this, some other added challenges existed owing to the electronic links' availability for improvement of the performance of the supply chain, thereby making it much more difficult for the companies to monitor other companies' actions, causing an enhanced focus on efficiency and cutting associated costs. As per Mehra & Iman, 2013, initiatives like quality management



provided the prospective for dealing with such challenges. Further, conventional SCM, where the suppliers were selected only on the basis of price, led to results that discouraged companies from competing in the worldwide markets.

## RESEARCH METHODOLOGY

With the rapidly enhancing competition between the Indian companies, each and every player in the market wants and tries to enhance their operational performance so as to enjoy a competitive edge over its competitors. In this journey, SCM and its practices, plays an imperative role because it is through these SCM practices that the companies can minimize their costs, maximize their value, offer worthiness to the customers and thus end up augmenting their revenues.

**a) Hypothesis of the study** – Capability of SCM Practices is correlated with Profitability (%), Turnover (Crores) & Sustenance (Years) of Revenue in all the enterprises – Small, Medium and Large..

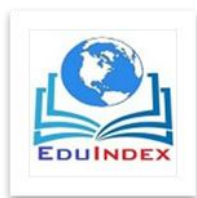
It can be expressed as  $y = f(x)$ , where,

y is the dependent variable representing Profitability (%), Turnover (Crores) & Sustenance (Years) of Revenue, and

x is the independent variable representing capability of SCM Practices (expressed in terms of score).

Below is the framework of the SCM process, variables of which are taken, for the purpose of research, as those factors which influence the maturity of the SCM processes:

- I. The organization makes collaborative forecast and replenishment agreements for their products and services. (Collaborative, Planning, Forecasting and Replenishment, SCM.01)
- II. The organization simulates and optimizes strategic, operational, and tactical planning scenarios and then converts these into feasible plans. (Supply Chain Simulation and Optimization, SCM.02)
- III. The organization exchanges and monitors order-based information with all concerned stakeholders and related parties. (Integrated Fulfillment, SCM.03)
- IV. The organization converts planning outcome into production / service orders and then fulfill the production/ service orders. (Manufacturing and Service Execution, SCM.04)
- V. The organization responds to predictable variability in a supply chain by administering the supply (using inventory management, capacity planning, etc.) and/or administering the demand (using trade promotions, short-term price discounts, etc.). (Monitor and Control Supply Chain Variation, SCM.05)



**b) Data Collection Method** – For this study, the data had been collected employing the questionnaire method, under which the questionnaire had been built up in such a way that the influence of the SCM practice and processes on Profitability, Turnover & Sustenance in Food and Grocery Retail in India could be captured.

**c) Data Analysis Techniques**

- i. SCM practice analysis analyzes the influence of the data employing the techniques of average and mode. As decided in the research methodology, 'x' is the average of the rating computed as continuous data for each and every frequency interval (for example, 1-10 Crores, 11-100 Crores, and so on). Mode value of the rating is calculated as discrete data and it represents a specific variable's rating which has occurred maximum number of times. It is used to construe SCM practice capability and process maturity of each and every rating of profitability, turnover & sustenance. Additionally, weightage average  $[\bar{x}(w)]$  is calculated to find entire population's sample mean, which has been utilized for interpretation of capability and maturity of SCM practices and processes, across profitability, turnover and sustenance, and their respective intervals. Furthermore, standard deviation ( $\sigma_x$ ) is calculated for the computed average and mode intervals so as to comprehend data dispersion and the confidence level of prediction, and it has been suggested that lower is the value of standard deviation between the average and the mode, higher is the accuracy of the finding.
- ii. For the analysis of the data relating to process maturity, absolute count of the rating for all the five variables or factors is measured and considered in context to the specific variables – profitability, turnover and sustenance. Skewness and Kurtosis of data is reflected by count analysis. While Skewness is verified by ratings' higher percentage value, Kurtosis is verified by monitoring percentage value's spreading across the rating value. These findings analysis by absolute count method is substantiated by average and mode value, and the accuracy is affirmed using standard deviation, and it has been finally suggested that lower is the value of standard deviation, higher is the level of confidence prediction.

**RESULTS**

Through the analyzed data, the influence of the Capability of SCM Practices and maturity of the SCM Processes on Profitability (PR), Turnover (TO) and Sustenance (SUS) were revealed. For this survey, SCM process maturity has been taken as confined to the variables – Collaborative, Planning, Forecasting & Replenishment (SCM.01), Supply Chain Simulation & Optimization (SCM.02), Integrated Fulfillment (SCM.03), Manufacturing and Service Execution (SCM.04), Monitor and Control Supply Chain Variation (SCM.05).



### a) Influence of SCM Practice Capability on Profitability

| Profit (%)   | Average (x) | Mode |
|--------------|-------------|------|
| 0-(-10)      | 4.2         | 4.0  |
| 0-10         | 3.6         | 3.0  |
| 11-20        | 3.7         | 3.0  |
| 21-30        | 3.8         | 5.0  |
| 31-40+       | 4.1         | 4.0  |
| $\bar{x}(w)$ | 3.8         | 3.6  |
| $\sigma_x$   | 0.2         | 0.8  |

TABLE 1: PR-SCM CAPABILITY IMPACT (AVERAGE, MODE) ANALYSIS

| Rating | Impact    | $\Sigma$ Count | % Score |
|--------|-----------|----------------|---------|
| 5      | Excellent | 31             | 28      |
| 4      | Very Good | 37             | 34      |
| 3      | Good      | 30             | 28      |
| 2      | Fair      | 6              | 6       |
| 1      | Limited   | 5              | 4       |

TABLE 2: PR-SCM CAPABILITY RATING COUNT & % SCORE

The following information has been provided by Statistics in Table 1 & 2:

- In Indian companies, SCM Practice has noticeably rating 4 influence [Average: = 3.8,  $\sigma_x = 0.2$  & Mode: = 3.6,  $\sigma_x = 0.8$ ] on profitability.
- Organizations with 0-20 % profitability reveal that SCM practice capability has only good influence on their profitability.
- Organizations with 20-30 % profitability reveal that SCM practice capability has excellent influence on their profitability and with 30-40 % profitability companies have very good influence on profitability.
- While 62% organizations reveal that SCM practice capability has on profitability, rating 4 to rating 5 influences, 28% companies have rating 3 control of SCM practice capability on the same.
- Only 6% companies have SCM practice with rating 2 influence and 4% companies have rating 1 influence.
- As per Table 2 (PR-SCM Capability Rating Count & % Score), organizations reveal that overall SCM practice capability has rating 4 influence on profitability of companies.

### b) Influence of SCM Practice Capability on Turnover

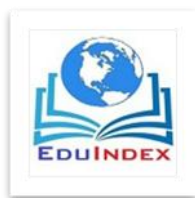
| Turnover (Cr) | Average (x) | Mode |
|---------------|-------------|------|
| 1 – 10        | 3.8         | 3.0  |
| 11 – 100      | 3.5         | 3.0  |
| 101 – 1000    | 3.5         | 4.0  |
| 1001 – 10000  | 3.6         | 4.0  |
| 10001 +       | 3.8         | 3.0  |
| $\bar{x}(w)$  | 3.6         | 3.6  |
| $\sigma_x$    | 0.1         | 0.5  |

TABLE 3: TO-SCM CAPABILITY IMPACT (AVERAGE, MODE) ANALYSIS

| Rating | Impact    | $\Sigma$ Count | % Score |
|--------|-----------|----------------|---------|
| 5      | Excellent | 21             | 19      |
| 4      | Very Good | 41             | 38      |
| 3      | Good      | 36             | 33      |
| 2      | Fair      | 5              | 5       |
| 1      | Limited   | 6              | 5       |

TABLE 4: TO-SCM CAPABILITY RATING COUNT & % SCORE

The following information has been provided by the statistics in Table 3 & 4:



- Capability of SCM practices noticeably has very good influence on turnover in case of organizations with 100-10000+ Crores turnover, but the organizations with 11-100 Crores turnover has Supply Chain Practice capability with only good influence on the same.
- Average = 3.6,  $\sigma_x = 0.1$  & Mode = 3.6,  $\sigma_x = 0.5$  exhibit that SCM practice capability has rating 4 influence on the turnover of the companies.
- While 57% organizations reveal that SCM practice has rating 4 to rating 5 influences, 33% organizations have rating 3 influences on the same.
- Only 5% organizations have rating 2 influences whereas other 5% have rating 1 influence of SCM practice capability on company's turnover.
- Overall, the data reveals that SCM practice has either rating 4 or rating 3 influence on organizations' turnover.

#### c) Influence of SCM Practice Capability on Sustenance

| SUS(Yrs.)     | Average (x) | Mode |
|---------------|-------------|------|
| 0-10          | 3.4         | 3.0  |
| 11-20         | 3.4         | 3.0  |
| 21-30         | 3.8         | 4.0  |
| 31-40         | 3.9         | 4.0  |
| 41-50+        | 3.9         | 4.0  |
| $\bar{x}$ (w) | 3.6         | 3.5  |
| $\sigma_x$    | 0.2         | 0.5  |

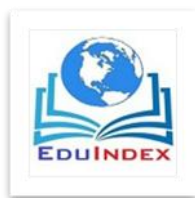
TABLE 5: SUS-SCM CAPABILITY IMPACT (AVERAGE, MODE) ANALYSIS

| Rating | Impact    | $\Sigma$ Count | % Score |
|--------|-----------|----------------|---------|
| 5      | Excellent | 26             | 24      |
| 4      | Very Good | 38             | 35      |
| 3      | Good      | 30             | 28      |
| 2      | Fair      | 10             | 9       |
| 1      | Limited   | 5              | 4       |

TABLE 6: SUS-SCM CAPABILITY RATING COUNT & % SCORE

The following information has been provided by the statistics in Table 5 & 6:

- In this case, as Average has much lower standard deviation, it has improved predictability of the influence of SCM Practice Capability on Sustenance as compared to the Mode.
- In Indian business environment, SCM practice has noticeably rating 4 influences on sustenance factor.
- While for the companies set for 1-20 years, SCM practice capability illustrates good (rating 3) influence on sustenance, for the companies set for 21-50 + years, it is rating 4 influences.
- While 59% companies reveal that SCM practice capability has rating 4 to rating 5 influence on sustenance, 28% companies declare that SCM practice capability has rating 3 influence.
- Only 9% companies have rating 2 influences on SCM practice capability and 4% companies have rating 1 influence.
- As per Table 6 (SUS-SCM Capability Rating Count & % Score), it has been revealed that SCM practice



capability has rating 4 influence on business' sustenance.

#### d) Influence of SCM's Processes Maturity on Turnover, Profitability and Sustenance

| Statistics   | Average |        |        |        |        | Mode   |        |        |        |        |
|--------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|              | SCM.01  | SCM.02 | SCM.03 | SCM.04 | SCM.05 | SCM.01 | SCM.02 | SCM.03 | SCM.04 | SCM.05 |
| $\bar{x}(w)$ | 3.6     | 3.7    | 3.6    | 3.7    | 3.6    | 3.7    | 4.3    | 3.5    | 3.2    | 3.7    |
| $\sigma_x$   | 0.2     | 0.1    | 0.1    | 0.1    | 0.1    | 0.4    | 0.4    | 0.5    | 0.5    | 0.5    |

Table 7 TO-SCM Leading Managerial Processes (Average, Mode) Analysis

- SCM.01 – Organizations up to 10001 Crores signify that SCM0.1 (CPFR) have very good process maturity. 44-65% of populace supports the statement. Organization with 1001 – 10000 Crores turnover has only good CPFR process maturity. Average = 3.6,  $\sigma_x = 0.2$  & Mode = 3.7,  $\sigma_x = 0.4$  exhibit that the Indian companies, having turnover 1-10001+ Crores, have Collaborative, Planning, Forecasting and Replenishment process with very good process maturity.
- Supply Chain Simulation and Optimization (SCM.02) – Average = 3.7 signify that Supply Chain Execution Planning process has very good process maturity with high predictability ( $\sigma_x = 0.1$ ) & Mode = 4.3 reveal that Supply Chain Execution Planning process has very good process maturity with low predictability ( $\sigma_x = 0.4$ ). Average = 3.7,  $\sigma_x = 0.1$  & Mode = 4.3,  $\sigma_x = 0.4$  exhibit that companies, having turnover 1-10001+ Crores, have Supply Chain Execution Planning process with very good process maturity, and it is sustained by 55-75% populace.
- Integrated Fulfillment (SCM.03) – Average = 3.6 signify that Integrated Fulfillment process has very good process maturity with high predictability ( $\sigma_x = 0.1$ ) & Mode = 3.5 demonstrate that Integrated Fulfillment process has very good process maturity with low predictability ( $\sigma_x = 0.5$ ). Average = 3.6,  $\sigma_x = 0.1$  & Mode = 3.5,  $\sigma_x = 0.5$  reveal that companies, having turnover 1-10001+ Crores, have Integrated Fulfillment process with very good process maturity, and it is sustained by 44-68 % of populace.
- Manufacturing & Service Execution (SCM.04) – Companies up to 10001+ Crores signify that Manufacturing & Service Execution process has very good maturity. Average = 3.7,  $\sigma_x = 0.1$  & Mode = 3.2,  $\sigma_x = 0.5$  reveal that companies, having turnover 1-10001+ Crores, have Manufacturing & Service Execution process with very good process maturity, and it is sustained by 49-60 % of populace.
- Monitor and Control Supply Chain Variation (SCM.05) – Average = 3.6 signify that Monitor and Control Supply Chain Variation process has good process maturity with high predictability ( $\sigma_x = 0.1$ ) & Mode = 3.7 exhibit that Monitor and Control Supply Chain Variation process has low predictability with good maturity ( $\sigma_x = 0.5$ ). Average = 3.6,  $\sigma_x = 0.1$  & Mode = 3.7,  $\sigma_x = 0.5$  reveal that companies, having



turnover 1-10001+ Crores, have Monitor and Control Supply Chain Variation process with very good process maturity, and it is sustained by 50-56% of populace.

## DISCUSSION

### a) **Influence of SCM Practices Capability on Profitability, Turnover and Sustenance**

- Overall influence of SCM Practice Capability on Profitability – Very Good – While 62% companies reveal that SCM practice capability has rating 4 to rating 5 influence on profitability, 28% companies have rating 3 influence of SCM practice capability.
- Overall influence of SCM Practice Capability on Turnover – Very Good – While 57% companies reveal that SCM practice has rating 4 to rating 5 influence on turnover, 33% companies have rating 3 influence.
- Overall influence of SCM Practice Capability on Sustenance – Very Good – While 59% companies reveal that SCM practice capability has rating 4 to rating 5 influence on the sustenance factor, 28% companies reveal that SCM practice capability has rating 3 influence on the same.

### b) **Influence of SCM Process Maturity across Profitability, Turnover and Sustenance**

- The companies with negative or unconstructive profitability have one very good SCM process maturity, viz. Integrated Fulfillment. In Organization with 31-40+% profitability, process maturity of CPFR, Supply Chain Simulation and Optimization, Manufacturing and Service Execution, Monitor and Control Supply Chain Variation have rating 4 influences on SCM process maturity.
- In companies with 1-10 Crores turnover, SCM process maturity is driven by CPFR, Supply Chain Simulation and Optimization, Manufacturing and Service Execution. These process maturities have rating 4 influences on the turnover factor. Companies with 11- 100 & 1001-10000 Crores turnover exhibit that SCM process maturity is determined by CPFR, Integrated Fulfillment, Supply Chain Simulation and Optimization, Monitor and Control Supply Chain Variation, and these SCM process maturities have rating 4 influences on the turnover factor.
- The companies with 0-10 years' sustenance are persuaded by Supply Chain Simulation and Optimization with very good maturity, and this is sustained by more than 66% populace. The companies with 31-40 years' sustenance have Integrated Fulfillment, Manufacturing and Service Execution with excellent process maturity; and CPFR, Supply Chain Simulation and Optimization and Monitor and Control Supply Chain Variation with very good process maturity influencing SCM process maturity and more than 58% organizations confirm this finding.



## CONCLUSION

To conclude, we can say that capability of Supply Chain Management practices has very good influence on profitability, turnover as well as sustenance. This impact can become more superior by improving Collaborative Planning, Forecasting and Replenishment; Integrated Fulfillment & Manufacturing & Service Execution processes. As per the Indian industry estimates, spending in context to SCM and logistics in India is around 15-16% of the GDP, whereas global estimates, in this context, vary and reveals to be around 14-15% of the GDP in case of China and around 9-10% of the GDP in case of the US. Further, in India, the transportation cost is around 45% of the total cost of production, of which more than 50% of the goods are being transported by road. Of the road transportation, trucking, with 67% of the trucks owned by the small unorganized players, is around 70%, accounting for 60% of the cost of logistics. This road transportation is further followed by rail transportation and then coastal shipping mode of transportation. But the irony is that due to prejudiced government norms and policies, and innate inadequacies, rail transportation has been gradually losing command. Similarly, in spite of water being the cheapest mode of transportation and massive marine routes available, owing to deprived government policies and lack of inventiveness by the private sector, this form of transportation is barely used. Finally, air transportation is another prominent mode, but is confined to a small proportion of shipments and couriers. There are several spending pointers of SCM, like inventory costs, in-bound transportation costs, distribution costs, etc. which varies from business to business, but nevertheless, according to CMIE, they are falling over an interlude of time. These businesses expend nearly 16-18% of their net sales on different logistics activities, whereas the global average is somewhere around 10-12%. Hence, lies ample scope to lessen cost of logistics, which in turn will allow companies to enhance their operating margins and make above-normal profits.

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