Impact of Supply Chain Management and Inventory Management on the Financial Performance of the Firms: An Analytical Review

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Abstract

Supply chain management is an integral part of any organization and has a direct impact on the financial performance of the firms. This review paper analyses the results and findings of the research papers written and witnessed by the authors on the related topics of supply chain management and its impact on the financial performance of the firms. The author has drawn many factors those are key to the said relationship.This review paper will help the researchers, academicians, policy makers, organizations, manufacturing firms and strategists for further research and developing new frameworks and conceptual inputs in determining the effects and impacts of supply chain management on financial performance of the firms and framing new important variables that are crucial to research. The study will establish the relationship between supply chain management and the firm's financial performance. The study will study the relation between Supply chain management, supply chain integration, inventory management, financial performance of companies, supply chain strategies and competitive advantages

Keywords: Supply Chain Management, Supply Chain Integration, Financial Performance, Supply Chain Strategies, Competitive Advantages.

Introduction

Supply chain management is the crucial aspect of any company which is directly or indirectly deals with manufacturing and production line of products. One of the important factors of supply chain management is inventory management. Supply chain and inventory management have a prolonged effect on the working of the production plant and running the business effectively. It comprises the logistics and inventory management of any company which manufactures as well as resells. There are certain costs associated with supply chain management. The cost of inventory, transportation, warehousing, production, labour, and other handling costs are premier. These costs are directly related to the financial paradigm of any company. First, to bear the supply chain costs, the companies must have a good base of working capital and liquid assets. The burden of huge supply chain costs and irregular fluctuations would affect the working capital and directly leads to the shortfall of profits. These costs are to be managed efficiently to process the better financial management. The cycle is vivid, and the effect is exponential. The entire firm performance depends upon how efficiently the company manages the costs associated to the supply chain. The impact is high and therefore, the study is large and important. Due to some of these reasons, supply chain management is studied as the separate and one of the most important department in the firm's management.

Talking about the impact and the cycle, let us start with the high cost of entire supply chain management. The vendor is chosen without proper research and price is non-negotiated as well as settled without any price analysis. The distance between the vendor and the unit is huge, taking the total transportation cost to a high notch. The warehousing management is poor that results into huge damage and irregular flow of inventory. The wastages are more and there is improper utilisation of the organisational resources. The quality is poor, and the delivery is delayed. The total sales go down whereas the total cost goes high. The profits are minimum and slowly rising towards losses. Since the profits are minimum, retained earnings will be zero or less, liabilities will not be paid off, dividends to the shareholders will not be paid, the total shareholder value falls, the stock prices will fall, there is no scope of further expansion, the working capital will suffer with rise in current liabilities and the entire cycle will render the exponential future losses.

The above negative cycle of supply chain ill management gives the idea of the importance of supply chain management towards the complete firm performance and finances. The idea is known but the relevance is not.

The researcher in this review paper will provide a literature review of few relevant papers written by scholarly authors and will provide the main research outcomes along with the research gaps and some research questions that will help the budding researchers and the existing ones to carry their studies towards effective research while filling up the gaps so occurred.

The researcher will review 16 Scopus indexed research papers in the relevant field and will provide the outcome in the deeper manner while framing the research gaps.

Literature Review

The inventory management practices have a direct impact on the organisational performance and competitive advantage (Atnafu&Balda, 2018). The greater practices of inventory management lead to the efficient organisational performance and further extends the firm's competitive advantage that increases the customer satisfaction, sales, and profits. The implantation of training in the firms for better inventory management practices would help in achieving the objective and gaining the profits (Atnafu&Balda, 2018). In this paper, the study was conducted on MSE's and results are positive correlation of better inventory management practices and organisational performance. But there is a presence of an intermediate factor between the two and it is competitive advantage. Since organisational performance is impacted by many factors, inventory management is one such which has more direct effect on the competitive advantage of the company. It is seen that the competitive advantage of the company has a greater effect than inventory management on the organisational performance. So, there is an existence of the degree of effect on all the factors.

Supply chain management and net trade cycles have direct impact on the financial performance of manufacturing companies but there is an excerpt of demand management to significantly prove its relationship. However, it is found out that the indirect relationship between supply chain and financial performance has more impact than their direct relationship (Abbas, Nobanee, Khan, Varas, 2017). It is also evident that the basis for such results and significant relationship is cost cutting methodologies to increase financial performance of the company. Another research shows that the bottom-line profits of the companies are deeply impacted by good supply chain management focussed through reduction in fixed assets like plants, machineries and transport vehicles. There is a significant increase in bottom line profits of the companies who have sound supply chain and reduction in fixed costs (Amr

Youssef & Islam El- Nakib 2015). It is well reported that in order to increase the profitability of any firm, optimizing the supply chain management and inventory management is needed. Such optimization is carried through cost reduction at all levels like logistics, inventory and other related areas.

The question arises here that how to check whether the supply chain has increased profitability of the firm or not? That means, conceptualizing the measurement of supply chain and inventory management is needed. Thus, it is evolved that there are many parameters that could be useful in evaluating the performance of supply chain management and form various metrics as measurement tools (Mkumbo et al. 2019). The research also suggested that the key element behind the successful supply chain management and its linkage to the financial performance of the companies is the relationship between company and its suppliers and many studies have failed to measure the relationship between these two parties. There is one more factor that forms the strong basis to evaluate the financial performance of any firm and that is 'Liquidity management'. As we all know that liquidity is innate for any firm to run successfully in the path of profitability. And, there is a direct relationship between liquidity, inventory and receivables. One such study found the positive relationship between inventory management, liquidity management and supply chain management, where liquidity indicates financial strength of the company. It is found out that inventory management plays as a strong mediator between liquidity management and supply chain management (Agustina et al. 2019). It is further researched in another study that the optimization of business processes with respect to accounting standards and procedures are required for successful management of supply chain. So, it's a reverse process where accounting procedures related to fixing of fixed assets, elimination of bureaucratic accounting, availability as well as disclosure of information, reduction of the accounting processing time and planning and documenting of accounting in the business, are optimized in order to ensure the adequately managed supply chain and boosting financial performance of the companies (Kintonova et al. 2019).

In the further elaborated study, it is revealed that not only supply chain management but also supply chain integration and supply chain operations long with human resource management affects the business performance in a positive manner. Therefore, in order to boost the financial performance integration of supply chain with other organizational departments with effective model is necessary (Jermsittiparsert, Wattanapongphasuk, phonwattana, 2019). In another scholarly article, it is proposed that not only supply chain management, but inventory management also has positive outlook towards organization performance of companies. The research was done on 188 micro and small-scale industries in Ethiopia and result was conclusive enough to state that more the better practices for inventory management in an organization, better financial results will be seen (Daniel Atnafu&AssefaBalda 2018). In one of the studies it is found that supply chain integration with respect to information, internal, customer and supplier is significantly related to the supply chain performance in terms of logistics cost, operations performance and financial benefits. Out of this information integration is the key to the better supply chain performance in companies (Kumar et al. 2017). It is further examined that the supply chain indicators and their integration leads to reduction in the logistics cost and has a great influence on the financial strengthening in a company, which develops strong strategies to make external changes in any organization as well as the market platform (Kumar et al. 2017).

One of the studies analysed that supply chain and its approaches can also affect the equity of the company. There are two approaches to supply chain management- traditional approach and modern approach. Traditional approach focusses on physical form of logistics operations and modern approach focuses on financial aspects of supply chain. It is evident that traditional approach does not tend to move or change the equity of the company while modern approach shifts the equity as well as improves the financial performance of the company. The financial aspects that are taken into consideration are current assets, fixed assets, liabilities, cash and bank balances, debts and securities, planning and controlling etc. (Ramezani, Kimiagari, Karimi, 2014).

Innovation is the supreme power for any business lead. It is needed at all levels along with the changing times, fashion, demand, and taste. It is observed that the innovation in the supply networks and supply chain has the positive effect on the financial performance of the firm (Dong et al., 2020). The increase in the intensity of research and development in the supply base directly increases the financial performance of the firm. But the complexities of the supply base would trigger negative effect on the conduction of R&D as well as on the financial performance of the company. The supply networks and base are very complex in nature. Thus, the complexities like differentiation of products, number of suppliers and the supplier interrelationships would render difficulty in adopting research practices and innovation, which would hamper efficiency, modernisation, and financial performance of the company (Dong et al., 2020). (Tang et al., 2009) This study of boeing-787 supported the fact that R&D in supply chain management as an exclusive parameter would hamper the firm's performance due to the presence of complexities that are difficult to manage.

Supplier relationships with the firms is the major factor in a supply chain performance. The firm's trying to achieve real earnings and impart real earnings management (REA) for the better financial performance (Lanier et al., 2019). The real earnings management include cutting costs to the extreme to increase the real earnings. There are two kinds of customers for any supplier- major or powerful and minor or less powerful. The major customers give regular and big orders to the suppliers. It is evident that if the major customers count on their real earnings, they go for major cost cutting that will improve their financial performance; bur adversely affects the relationship with the suppliers. The stock market will keep an eye on the major customers or the big firms. REM can be achieved by exploiting the power by the major customers for whom the costs for achieving REM is lower than the non-major customers. The post REM period determines optimum operating cash flows for the major customers. Thus, REM positively impacts the firms' cash flows and profitability but adversely affects the supplier relationship due to huge expense cuts, purchasing negotiations and other power-based issues (Lanier et al., 2019). Such power exploitation results in value destruction but would gain short term financial objectives for the powerful companies.

Time is equal to cost in the business. Time related strategies are evident to have significant effect on the performance of the forms. Time is crucial in supply chain management too. Procurement which is one of the foremost steps in supply chain management is associated with time factor, which is procurement lead time. Sadly, this factor is one of the least considered in the supply chain management and its efficiency (Jayaram & Vickery S.K, 1998). The research on this factor is minimal but to its contrast, the impact of procurement lead time towards financial performance of the companies is empirical. The procurement lead time has a better approach towards overall firm performance, and it is evident that the market share and market share growth also have positive impact from the managed procurement lead time. The procurement lead time can be managed efficiently with proper HR practices, strategies and supply base standardisation. It also flows like a cycle where the strategies above and firm's performance also leads to a synergetic effect on procurement lead time.

Supply chain practices and obtaining the competitive advantages over the competitors while exceling financially, is the challenging task for any organization (Youssef &Nakib, 2015). The supply chain practices like supply chain integration, complexity management, strategy building, improvement and innovation plays a significant role in accelerating the bottom-line financials and profits of the organization in terms of Return on assets (ROA) and return on equities (ROE). Many firms also opt for decreasing the costs on the supply chain fixed assets like plants, warehouses, and transportation assets, while going for the third-party service providers in lieu of all these assets, while saving costs and increasing profits (Youssef &Nakib, 2015). In developing countries too, it is studied that the improvement in the supply chain practices have brought the profits of the company on the higher side. The improvement in Information Technology has also developed the supply chain practices in the betterment of financial aspects of the businesses.

There are several other components of supply chain management like net trade cycle that acts like a moderator between the supply chain management and the financial performance of the companies. The supply chain management has an indirect impact of the return on assets (ROA), return on equity (ROE) and the operational profits of the company. The mediator between the two is the net trade cycle that works on time basis (Abbas et al., 2017). Net trade cycle gives an idea about the length of inventory outstanding, sales outstanding and payables outstanding. The other variables of financial performance like liquidity and profitability are better judged with the length of net trade cycle which is one of the important components of supply chain management. The shorter the net trade cycle, the greater is the liquidity and profitability of the company (Abbas et al., 2017).

There is one study that reflects the automation and modelling practices in supply chain management as well as in the accounting procedures for understanding the quick and optimum financial statements of the company (Kintonova et al., 2019). The speed of the practices in supply chain management with well-coordinated speed and accuracy in the accounting procedures, mostly concerned with the fixed assets, results in the faster and accurate financial results. The automation could be practiced by framing standard and target models for the procedures which will further add value to the cost and time for the organization (Kintonova et al., 2019).

Supply chain management along with the human resource management may do wonders in increasing the business performance from all the aspects. The increase in capabilities whether technological, procedural or personnel will increase the business performance of any organization as noted in the food industry of Thailand (Jermsittiparsert et al., 2019). There is a significant impact of capability building in supply chain and human resource on the business performance of the firms. It has been observed that the supply chain management, supply chain integration, human resource management and the business performance are inter-related or positively correlated (Jermsittiparsert et al., 2019). The strategy makers and the owners of the companies should focus on building capabilities of supply chain management in three aspects which are supply chain integration, supply chain operations and human resource management.

There are several risks associated with supply chain management like damage products, delayed delivery, logistics hindrances, overpricing, huge labour cost, increased lead time, diminishing reserve sock and many others. Such risks disrupt the organizational functions and pose huge financial loss to the companies. Such risks also create the strong requirement of supply chain risk management at all levels of supply chain to provide better financial approachability to the firms. There are several supply chain buffering and bridging strategies as contributed by Bode et al., 2011. Opting these strategies indicates better supply chain risk management and firm performance (Manhart et al., 2020). These strategies may be applied globally, but due to cultural differences, the impact is variable. Therefore, strategies should be modified with respect to cultural differences of the states and nations. Both these strategies focus internally and externally, where buffering strategies work internally, and bridging strategies work externally (Manhart et al., 2020).It is also noted that the effect of bridging strategies on supply chain risk management and firm's performance is more than the buffering strategies. But care should be taken while deploying resources in bridging strategies after reasonable thinking and buffering strategies should be imparted as an addition to the bridging strategies. Supply chain risk management offers long live continuity to the firm and hence enhances its performance at all levels (Manhart et al., 2020).

Supply chain management is one of the areas of the organizations that has direct link with performance. Supply chain management can be measured practically in terms of performance and can be controlled against the set plans, in case of deviations and will add value to the performance of the firm (Mkumbo et al.,2019). Performance measurement practices are the key to be implemented in supply chain management to increase the value of the firm's performance. Such practices like setting the plans, delivery dates, lead time, quality, efficiency level and tracking all these actual parameters against the standards will improve the performance as it is severely mapped, tracked and corrected (Mkumbo et al., 2019).

There is a direct relationship between liquidity management supply chain management and the financial management (Agustina et al., 2019). Most of the times financial management acts as a mediator between the liquidity management and the supply chain management. There are greater responses evidently visible for the relationship of inventory management as a mediator between the liquidity management and the supply chain management too. Results shown that if the working capital and the liquidity of the firm is maintained with proper cash flows, there is a better control administered on the supply chain management and inventory management of the firm due to fast payments, less credit, less cost, less time, and no shortages. Thus, liquidity management, financial management and supply chain management are interrelated to each other with positive impacts (Agustina et al., 2019)

There are certain inventory management practices that are taken over by the firms for the better delivery of the supply chain management paradigm and for improving the financial health of the firms (Adeboyega et al., 2017). The inventory management practices like JIT, MRP and EOQ goes hand in hand with the reduction in the cost of goods sold and improving the quality as well as the financial condition of the firm. It is shown that there is a positive relationship between the inventory control policies and the profitability of the firms and better inventory management practices will put better financial health for the firms (Adeboyega et al., 2017). Beside the inventory control practices, the firm should concentrate on the supplier partnerships to have uninterrupted supply at better cost and before time, enriched with quality and customer satisfaction, thereby improving the financial health for the firms (Adeboyega et al., 2017).

It is also evident that the sound financial performance of the firm has a dependency on by the supplier firm (Elking et al., 2017). A supplier relationship will go fruitful and long based upon the financial performance of the firm. A sound firm will have better supplier relationship in terms of on time payment and regular orders, but an unsound firm will struggle on the supplier relation because of more credit and credit period, irregular orders, and frequent order cancellation. Supplier relationship and supplier dependency on the financial performance of the firm is a big factor in supply chain management of the firm. Also, the lean practices of inventory management show the positive impact towards the profitability of the firm (Elking et al., 2017).

One of the studies on the flour manufacturing companies in Nigeria studies that every firm opts for different inventory management strategies based upon their policies, change in customer demand and fashion, trends and future forecasts, their own capacities and industry practices (John et al., 2015). Such inventory management strategies are scientifically correlated and because of it, they are capable to show the positive results on the operating performance of the firms in terms of effective capacity utilization, reduction in lead time, optimum resource utilization, decrease in shortages and wastages and better-quality manufacturing. These results are unlikely with non-scientific inventory management strategies (John et al., 2015). The scientific inventory practices should be implemented for better control over stock outs, shortages, and unnecessary piling of materials, with penalties (John et al., 2015).

Supply chain management has four constructs that establishes the integrated relationship among them which is directly related to the firm performance (Patel H.J. 2017). Supply chain management integrated with such constructs and factors will be more effective in the better firm performance. The relationships are between Supply chain management strategy and Supply chain management commitment, supply chain management strategy and supply chain integration, supply chain management strategy and firm performance, supply chain management commitment and supply chain integration, supply chain integration and firm performance. These interrelationships are needed for efficient supply chain management and firm performance (Patel H.J. 2017). This conceptual framework model of supply chain management has given new insights and directions in the study of supply chain management and its integration for the future practitioners, researchers, institutes, and academicians.

Research Gaps

- Measures to reduce supply base complexities and foster innovation in supply chain networking to increase the financial performance of the company (Dong et al., 2020).
- The triangular interrelationship between competitive advantage and better inventory practices and firm's performance there by ruling out the factors to increase competitive advantage of the company (Atnafu&Balda, 2018).
- The more aggressive research towards REM, supplier relations and the long-term financial performance of the major as well as non-major companies (Lanier et al., 2019).
- The research on the impact of procurement lead time on the financial performance of the companies (Jayaram & Vickery S.K, 1998).
- The research on SCM capabilities like SCI, SCO and HRM and its impact on business performance could be studied in wider area and inter industry to understand the impact with diversity (Jermsittiparsert et al., 2019).

Conclusions

It is evident that the supply chain management and the inventory management has the positive impact on the financial performance of the firms. The key factors that are recorded for this analysis are the liquidity management, supply chain integration, supply chain commitment, supply chain communication, supply chain information, supplier partnerships, supplier relationships, Fixed assets cost, Cost of raw material, Inventory turnover ratio, Storage and carriage cost, Inventory Lag time, Labour cost, Repairs and maintenance cost, Operational expenses, lead time, , Supply chain logistic cost, carrying and holding cost, inventory turnover ratio, raw material cost inventory management, liquidity management, real earnings management, Time factor, supply chain practices, supply chain strategies, competitive advantages, net trade cycle, return on assets, return on equity, automation and modelling practices, human resource management, supply chain risk management, bridging and buffering strategies, performance measurement practices and inventory management practices. These factors are found to be critical while forming an impact of entire supply chain management on the financial performance of the firms. It is evident that financial performance of the firms in terms of profitability, liquidity and growth is carried by all the departments and supply chain management is one of those. The supplier relationships will allow fragment this analysis to a level that will portray the better inventory practices at less cost, good quality, timely delivery, emergency deliveries, and at less risk. Therefore, one such factor that helps in integrating all other major factors is supplier relationship and partnership. The other major factors is out bursting the strategies of the competitors and evolving as a leader through competitive advantage that will include bridging and buffering strategies to outperform financially. It is also evident that majority of the qualitative factors have quantitative factors as the runners that affects the overall financial performance of the firms. One interesting factor that is yet to be studied more is the role of automation and technological implications of supply chain management on the financial performance of the firms. Technology makes the things organised and plays its role in perfection and time saving. Time is money and hence, it will help in reducing cost and increase the profitability and reach. The major tools used by the authors for their research in this field are ratio analysis, regression analysis, confirmatory factor analysis, Cronbach's alpha, Fornell and larker (discriminant validity), and Pearson's correlation.Therefore, these are the factors of supply chain and inventory management and their effects on the financial performance of the firms, which is positive and impactful.

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