

# Analytical Study for Functions of Supply Chain Management on Retail Sector and its Effect on Retail Prices

Hassan Mohammed Meer

Industrial Engineering College King Abdul-Aziz University, Jeddah, SA

Email Id: [eng.hassan.meer@gmail.com](mailto:eng.hassan.meer@gmail.com)

**Abstract:** A supply chain is incomplete if there is no proper distribution channel that delivers goods to the end users. A good Supply chain model would be the best way to face any pandemic or crisis's effects. challenges and prospects aim to holistically review the retail supply chain, the challenges, and emerging trends, with a particular focus on the supply chain for business owners. Retailing tasks, retail classification, differences in grocery and fashion retailing, challenges and opportunities for prospective retailers, supply chain management and small businesses are discussed amongst others. The feasibility for supply chain for the retail business and results that help make the case company edge competitors are also part of the discussion. Theories, opinions, and recommendations used in this research work were based on extensive use of primary and secondary research methods which include interview, textbook, dictionaries, case studies and internet media. At the end recommendations on inventory management, formation of buying group and extensive use of niche merchandise is put forward. The contents of this paper will come in handy for prospective retail entrepreneurs and researchers. There is also a possibility for further research into the transformations in retail supply chain like the quick response, factory gate pricing, efficient consumer response.

**Keywords:** Supply Chain, Dyadic Relations, Collaboration, Levels of Interaction, Interaction, Information Technology, Pandemic Control

## I. INTRODUCTION

Customer value is maximized via supply chain management, which is the active management of supply chain operations. A competitive advantage may be gained via supply chain management. Companies are making a concerted effort to manage and improve their supply chains efficiently. The activities of sourcing, procurement, conversion, and logistics management are all included in the scope of supply chain management. The coordination and cooperation among channel partners, such as suppliers, middlemen, retailers, and customers, is essential in supply chain management.

The focus is to improve coordination between the chain members to make the value delivery process efficient and effective. The supply chain network is made effective and efficient through coordination to maximize profitability and cut the costs. The value of the supply chain management is delivered to the customers by managing the flow of items and the information linked with them. In supply chain management (SCM), customers are seen as partners in the chain. The integration of the company's internal operations with the external activities of suppliers, customers, and other channel members is one of the main aims of supply chain management. Supply chain efficiency can only be achieved if all members of the supply chain are actively involved in a process.

Customers are no longer seen as passive receivers of things that are ultimately sold to them by retailers. To provide value to consumers, retailers must now take an active part in the supply chain management process. A successful supply chain management strategy places a high value on the client and solving problems that benefit them. Customers' expectations for on-time delivery are met when the supply chain concludes at the shops. To keep their clients happy, they keep their prices low and provide them

value-added services and products. With the help of supply chain management (SCM), merchants can effectively invest in account receivables and inventory. Supply chain management is all about making products accessible to consumers at the right price, at the right time, and in the right location. The logistics and supply chain are critical for merchants in the FMCG sector. Retailers seek for low-cost suppliers, low-cost manufacturers, and lucrative clients to maximize profits. Fast-moving consumer goods (FMCG) are marketed in a rapidly expanding network of super and hypermarkets in Saudi Arabia. In this respect, there is a need to examine the supply chain in retail, with a focus on FMCG retail. It is the goal of these articles to examine the supply chain in retail stores, with a focus on FMCG.

### ***Statement of Problem under Study***

One of the most critical aspects of today's industry is the management of the supply chain. Managing the supply chain effectively results in a stable and lucrative relationship between the various supply chain participants. Saudi Arabia's retail industry has grown rapidly in the previous several years. A lot of progress has been made in the organization and development of its structure. The retail industry has changed dramatically because of COVID 19. In recent years, the market has been split between organised and unorganized shops. There has been a shift toward organised shops in the marketplaces of Saudi Arabia. The purpose of this research is to examine the role of supply chain management (SCM) in the organised and unorganised retail markets of the Kingdom of Saudi Arabia and the role of various factors such as information flow, inventory control, warehousing, logistics, and forecasting demand and supply. Retailers can order products more affordably and profitably with the help of an efficient SCM and seamless integration. If the supply chain participants have an efficient and effective relationship, the items flow smoothly to the end users, resulting in a satisfied customer base. Supply chain analysis is essential in the fast-paced FMCG industry, where sales volume is high daily, to ensure that the most cost-effective orders are placed. To ensure a smooth supply chain, merchants must consider all relevant elements and implement tactics that are likely to provide positive results. There are new pricing policies, supply and warehousing policies that retailers must adopt to make the entire supply chain more efficient. End customers will get higher value because of more effective SCM policies. Retailers must provide consumers with economic value by managing and controlling their supply chain effectively. Retailers must manage the supply chain in such a manner as to ensure that the unique demands of the end customers are fully met. End consumers want shops to meet their demands, which is why the information retailers get and the rules they implement are so critical. As a result, inventory levels are lowered, costs are slashed, and consumers are more satisfied. It is thus necessary to have an efficient supply chain with high levels of integration so that merchants can deliver products at the correct time and place at the right price.

### ***Importance of Study***

A deeper knowledge of supply chain management in the retail industry may be gained from the findings of this research paper in supply chain management in the following way.

- Effective SCM with good supply chain integration will reduce costs.
- SCM will increase cost efficiencies
- SCM Integration will maximize profit
- SCM makes the product available at right place, right time and right price

In these research papers the importance of supply chain management in retail sector of FMCG will be studied

- It will help to organize the retailers to overcome the issues of space, staff needs and placing orders.
- The main objective of this research is to explain how SCM effects prices for the end users.

- Making an effective supply chain has complexity and challenges associated with it so we have to analyze it in this research
- FMCG are high volume products that are sold in high volume on daily basis. If better plans are devised for the retailers in this sector, then the profitability can be maximized.
- Orders placed by merchants must be placed in such a manner that items are available at the proper time and at the lowest possible storage costs. The retailers have to make their policies cost efficient.
- The findings of the research will provide ideas to develop new products for retailing in FMCG sector

### ***Objectives of the study***

The following goals will be achieved because of this investigation:

1. To investigate the various factors that affect the supply chain of retail sector of FMCG.
2. The benefits that the retailers obtain from the effective supply chain management
3. To suggest the processes through which retail prices for the final users can be reduced
4. To opt for the policies through which retailers can satisfy the end users by delivering value to the end customers
5. To design supply chain management strategy that would be cost-effective
6. To evaluate the effect of logistics and supply chain management in retail sector.
7. For retail businesses, logistics and supply chain management are critical.
8. Problems in supply chain management in retail sector in KSA marketplaces need to be identified in this study.

### ***The Research Methodology and procedure***

For most part, supply chain studies use a mixed methods approach like the ones shown in these works. In these publications, supply chain and logistics are studied quantitatively. KSA retail grocery retailers employ the survey technique to choose the most effective supply chain management strategy. It has also been utilised to better understand supply chain management in retail industries via interviews and questions. It was supply chain specialists that took part in the interview who had obtained supply management knowledge via their work in the Saudi Arabian market. In Saudi Arabia, questions were asked on the best practices for selling FMCG products. The results of the poll were integrated into the questions for the interview. Research from other research will play an important role in this presentation. This study will be based on the findings of earlier research.

The following sources will be used to get the data.

- Surveys and conversations with market participants in Saudi Arabia provided the basis for this analysis.
- This research needs to identify supply chain management issues in the retail industry in KSA marketplaces.

There were several phases in the research process. Setting goals and achieving them is the first step in the process of research writing. Samples are then taken from the data and analysed to reach the goals.

### **Result drawing and validation**

Primary and secondary data were used to conclude. After that, the information is use in drawing logical inferences. Several suggestions are made in the papers after a lengthy analysis of the issue.

## **II. LITERATURE REVIEW**

### **Supply chain in retail sector**

In this case, Sladana Brajevic and Ivana Plazibat (2009) Changes in company strategy have been made to identify new means of attracting clients. The retail business has been dramatically transformed because of globalisation and consolidation. Retailers face new operating models and technology that are more efficient and effective. Since its first appearance in the literature in 1982, the term "supply chain management" (SCM) has only recently gained currency. Retailing is the last step in the supply chain. Customers will be happier and the company's bottom line will benefit from better supply chain management. Customers' specific needs may be met by a wide variety of items provided by a big number of producers thanks to retailing. Considering the most advantageous suppliers is at the heart of supply chain management. It is impossible for retailers to fulfil their position in the supply chain without a tight relationship with other supply chain activities.

Increasing market volatility and complexity necessitates the usage of supply chain management by organisations. In the value chain, SCM is utilised to minimise inventory. Retailers employ supply chain management to ensure that their customers are happy with their goods. As the last link in the supply chain, retailers know exactly when, when, and how their consumers want to buy a specific product. With SCM, retail is a difficult environment for implementing and practising. As a result of this effort, merchants will be able to better grasp the functions of supply chain management (SCM).

Srikantha Dath, Chandrasekharan Rajendran, and K. Narashiman are the authors of this paper (2008). Consumers are influenced by retailers because of the variety of options, speed, and price points they provide. They work together to ensure that clients are satisfied. In order to address SCM from the retailer's standpoint, this study creates a legitimate and trustworthy instrument. A correlation is found between the SCM variables, and the performance indicators used to evaluate them. Direct touch with consumers means that businesses know exactly what their customers want.

Zairi, M. (1998) Increased rivalry and shrinking profit margins are causing a lot of recent developments in the retail business. Customers will benefit from a well-managed supply chain that includes an expanded supply chain. The easiest method to assess the supply chain is to see how quickly it responds to client requests. The efficient management of the supply chain is made possible by quick responses from customers. Partnerships within a supply chain are critical to its success.

### **Organized and unorganized retailers**

Customers are drawn to well-located food shops, according to Goswami Paromita (2009). Customers may benefit from grocery shops that provide friendly, trustworthy salespeople, home delivery, cleanliness, and high-quality products. Unorganized businesses may have a nice location, but their sales staff, hygiene, and product quality are all lacking. Everything you would expect to find in a reputable grocery shop may be found at the stores run by organisations. Having a good location is the only benefit of unorganised shops. However, despite their lack of organisation, unstructured shops still have a following. Despite this, they continue to draw tourists owing to their convenient location. However. There will be long-term consequences if they don't address these other issues. To be able to compete with organized merchants, unorganized retailers must modernize their facilities. For understandable reasons, the aim of organized stores is to gain a competitive edge over disorganised ones by improving their position soon. Jerath, Kinshuk, S. Sajeesh, and Z. John Zhang are the other part of the group that contributed (2016). Unorganized retailers were formerly the main force in the

retail industry in developing nations, but the organised retail sector has taken over in recent years. Various product attributes and consumption patterns are examined in the retailing environment of organised and disorganised retailers to develop a theoretical model of unstructured and organised retailing.

As per the literature review, the production is driven by disorganized merchants, although the entrance of organised retailers is transforming the terrain in positive ways, Unorganized merchants are being squeezed out of the market as a result of the increased efficiency that organized retailing brings. This results in a less competitive market, as seen in the following findings.

- Due to presence of organized retailers in the market the price charged by unorganized retailers increases.
- The unorganized market's share is growing as transportation costs go up again for end customer.
- Where there is bulk consumption, the customers go for organized retailers.
- Organized retailing lowers the social surplus because customers pay higher prices at unorganized retailers and the economy loses money because of wasteful bulk purchases. Unorganized retailing has grown in the market in recent years. The findings of the studies can help determine the correct guidelines for balancing organized and unorganized merchants

The Honorable Amol Narayane, and the Honorable Dilip Singh (2017) Retailing is a topic of research now. Consumers are increasingly favouring organised commerce. With the large number of malls and trade places, people are more inclined to shop there. A sea change has occurred in the way people go about getting their food and household essentials.

As incomes have risen and as people's lifestyles have evolved, so has their buying habits. In addition, population trends have shifted in favour of a more advantageous scenario. Nearby unorganised retailers sell most of the food and groceries to customers. Many new supermarkets and inexpensive retailers are springing up all throughout the country. The research can be carried out using the shop formats that have been chosen.

### ***Development in the supply chain innovations***

Garg, Y. Narahari, and N. Viswanadham are all members of this team (2006). The capacity of supply chain networks to provide precise and on-time deliveries is dependent on the reduction of unpredictability and the synchronisation of business processes. A cost-effective method for minimizing supply chain unpredictability and synchronising business processes has been created. As an example, the method is applied for mechanical design tolerances and supply chain lead time compression. To begin, the author gives an example of an analogy. The term "delivery sharpness" is coined by the author as a new measure of delivery quality. Customer satisfaction is influenced by gauging how well items are given to them. The lead time is chosen in such a way that the stipulated degree of delivery sharpness may be reached in an economical manner. This issue is referred to by the author as the variance pool allocation (VPA). For the VPA problem, the author proposes an efficient method for addressing it, as well as demonstrating that many key supplies chain design issues may be presented as examples.

Suzanne de Treville, Roy D Shapiro, Ari-Pekka Hameri (2004) Reducing lead times and focusing on enhancing demand data are both important for increasing the performance of the demand chain. To increase demand chain performance, should the emphasis be on reducing lead times or on optimizing the flow of demand information upstream.

According to the principle of supply and demand chain management, market mediation is accomplished via the decrease of lead time. As such, it may be seen as the core objective of supply chain management. There is a tendency among demand chain participants to focus more on the enhancement of information flow. Long lead periods seem to be overlooked by them. The framework proposed by the authors focuses on reducing lead times and improving the demand chain.

### ***Collaborative forecasting in food supply chain***

With the help of the whole supply chain, a single, more accurate forecast may be created via the use of a technique known as collaborative forecasting.

Regardless of the details, this is a strategy that makes use of all the available data and knowledge from the whole supply chain. As a result of this collaborative forecasting method, a more accurate and effective forecast is generated for the whole supply chain by integrating data from a variety of sources.

As a method of breaking down functional divisions and opening up supply chain information flow for everyone's benefit, collaborative forecasting has gained popularity in recent years. Supply chain management objectives are met by replacing inventory with information and forming internal and external relationships that support supply chain management goals. By exchanging knowledge and working together to find a solution, complicated problems may be solved. Collaboration among members of the supply chain results in a more accurate prediction since each one contributes their own experience. Sales are a great source of information regarding current promotions and new clients.

Two business phenomena that have been acknowledged as contributing elements to increased organisational performance are sales forecasting and cooperation, according to McCarthy, T.M. and Golicic, S.L. Studying the synergies that are created when the two processes are combined is a focus of McCarthy and Golicic's (2002) research, which makes use of case study methods. Leaders from three companies that use supply chain partners to collaborate on forecasting were interviewed in detail for this study. A new method to collaborative forecasting emerged because of the findings. Additionally, the product availability guarantee, streamlined inventory, and related expenses and revenue and profit increases are all a result of this strategy.

According to Holmström, Främling, Kaipia, and Saranen (2002), suppliers in the grocery supply chain confront several challenges, the most significant of which is the use of collaborative forecasting in the planning and forecasting process. Its primary goal is to help the merchant predict. Using the findings of Holmström et al. (2002) a method is proposed that would enable many people to work together in unison. "Rank and share" forecasting is the method used.

The retailer's current planning process is used as input. Category management is the name given to this procedure. The advantage that is gained via the use of category management. The retailer does not need to increase planning resources to increase cooperation with a big number of suppliers. The collaborative forecasting process will need more large-scale solutions. New metrics are required to show the positive effects of a product. Dispersed planning architectures and software need certain measures.

Can Eksoz, S. Afshin Mansouri, Michael Bourlakis (2014), develop a framework for factors involved in collaborative forecasting in food supply chains. Even though the existing research has examined several views on food supply chain collaborative forecasting,

There is a dearth of studies examining how long-term and accurate collaborative forecasting between producers and merchants. Retailers foresee seasonal, promotional, and freshly announced items for their customers. This approach focuses on projections made by merchants and manufacturers together.

There are trends, gaps, and prospective study topics in the supply chain's integration, information exchange, and forecasting that have been found via a literature assessment. According to the findings, a key necessity for collaborative forecasting is the integration of partners.

Forecasts are based on the quality and kind of information that is available. While retailers and manufacturers play a significant part in consensus projections, the importance of forecast and frequency cannot be overstated.

Finally, the role of forecasters in collaborative forecasting is essential in addition to the use of group forecasting tools to develop consensus predictions. In collaborative forecasting, group forecasting is critical since it is used to arrive at a consensus projection. There is a framework here that practitioners may make use of.

According to Helms, Etkin, and Chapman (2000), SCM is built on the concepts of collaboration and development, as well as the effective use of existing networks. It is the purpose of the linkages between chains to offer information that will help all chain members work more efficiently. Lower costs, quicker lead times, and better customer service may be achieved with the finest SCM practices. Collaboration forecasting employs supply chain management ideas to anticipate demand, and it utilizes existing information and technology to drive a change to demand dependent on forecast.

Supply chain partners will provide all demand information, eliminating the need to anticipate it. This eliminates the requirement for demand prediction.

### ***Information sharing in food supply chain***

Environmental uncertainty has been experimentally studied by Suhong Li and Binshan Lin (2006). For supply chain management, all the elements that influence information exchange and the quality of that information are evaluated experimentally.

196 organizations provided the information for this study. Multiple regression analyses are performed on this data. Analyses of this kind are performed to determine whether information sharing, and quality are impacted by the same factors or not. Results demonstrated that confidence among supply chain partners and a common vision between supply chain partners impact information sharing and information quality. Trust in supply chain partners has a good impact, whereas supplier uncertainty has a negative impact.

Top management's sharing of information has a positive effect, but the quality of that information is unaffected. Information quality and information sharing are unaffected by customer uncertainty, uncertainty of technology, partners' commitment, and IT staff.

According to the findings of the study, organizations with high levels of information sharing and high-quality information may be distinguished from those with low levels of information sharing and quality information by three key variables.

Industry-wide adoption of ICTs has resulted in large gains in information exchange across enterprises, according to research by Hamid Motahdi in 2008. In the food sector supply chain, Hamid motahdi (2008) studies the elements that determine the exchange of information between merchants and their suppliers. University of Minnesota's Food Industry Center compiled the Super Market Panel Data. The use of information sharing technology by food sellers is being researched. This study promotes the sharing of information with suppliers in the vertical direction. Several studies have shown that retailers with a big number of suppliers are more likely to participate in sharing. These businesses don't hide anything. Theoretically, retailers with a high number of customers are less anxious about disclosing information since they are less concerned about the supplier's exploitation of retailer data. Chains with self-distribution are also more likely to exchange information. Finally, the market's structure affects the sort of information that is disseminated.

Studies by H.K. Chan and F.T.S. Chan demonstrate the importance of coordination in the development of effective supply chains. Supply chain implementation also relies heavily on it. Supply chain information sharing is considered a vital tool for coordinating supply chain operations and overcoming supply network dynamics. Negotiation takes place prior to the sharing of information. The agent-based paradigm is being used for this round of negotiations. The parameters of supply quantity and due date are flexible under this agreement. This is a substantial departure from previous literature, which said that knowledge might be given at any moment. STO is a stochastic model that allows for both quantity and due date flexibility without sharing any information, as well as both quantity and due date flexibility with some sharing of information. The last three models allow for both quantity and due date flexibility with full sharing of information. All these hypotheses have real-world applications.

Supply chain management (SCM) research shows that information sharing has become a major aspect in a company's competitive advantage, according to a study by pek Koçolu, Salih Zeki mamolu, Hüseyin nce, Halit Keskin (2011). The pace of economic globalisation is quickening. Supply chain integration is becoming more common as the economy becomes more international and competitive. Research on the impact of SCI on information sharing has been less extensive. This research focuses primarily on the impact of Supply Chain Information (SCI) on information exchange and supply chain performance. SCP is also intended to be examined in relation to the role played by information sharing. Information sharing has been shown to improve supply chain coordination, product and service quality, reduce supply chain costs and gain competitive advantages.

The supply chain network relies heavily on information exchange. A study looked at the effects of knowledge sharing on SCPs. Organizations may utilize the results of the research to enhance their SCP by using information exchange.

Information system advances have had a significant impact on supply chain management, according to Hau L. Lee and Seungjin Whang (2006). Since technology has advanced so much, supply chain partners may now work together more closely to boost efficiency. Finally, the realized return may be split among the partners because of this process. Achieving tight coordination requires, at its core, the open exchange of information. As information technology has advanced, it has made it easier for people to share information. Inventory, sales, forecasts of demand, and delivery time are some of the information that is provided. They also provide a paradigm for information exchange throughout the supply chain

### ***Competitive strategies in supply chain***

According to the definitions provided, competitive strategy is the set of customer needs that an organisation aims to meet with its products or services, and supply chain strategy is the way in which materials, product manufacturers or specific services, and product distribution are all interconnected. The term "fit" refers to the idea that the aims of the two approaches should be the same. Xiande Zhao, Yinan Qi, and Kenneth K. Boyer (2009). The most efficient approach to enhance worldwide competitiveness is via supply chain management.

To increase output, companies must carefully plan their supply chain management operations. It is essential for companies to arrange their communication and operations. Lean strategy, agile strategy, and lean-aggressive strategy are all examples of supply chain strategies.

Coordinating and matching supply chain tactics to product attributes should always be a top priority.

Supply chain coordination with product attributes helps the organisation reach its objectives and perform better. In this research, the authors explore supply chain strategies and evaluate the supply chain strategy model experimentally. Cluster analysis of the data reveals that the companies are using a mix of lean, agile, and lean/agile supply chain methods. The data was gathered. But the statistics



demonstrate that some companies have a conventional strategy that does not reflect either a lean or an agile plan

These companies' results are poorer than those of companies using a lean, agile, or lean/agile supply chain strategy. Product features and operational performance are taken into account while examining the tactics in question. Supply chain strategy models are experimentally tested by the researchers.

Some of these theories haven't been well proven experimentally or in fast-growing countries.

In the hands of Holger Schiele (2012). Firms depend on the cooperation of suppliers in their innovation processes when it comes to innovation. Retailers concentrate on gaining preferred customers with certain suppliers since sometimes the supplies aren't available for collaboration with the buyers. The author's goal is to describe the supply chain improvements used by a retailer to boost efficiency. Suppliers and retailers work together more to improve buyer-supplier relationships. These criteria are used to find innovative suppliers and an innovative supplier portfolio model is introduced by the author in this article. The customer-attractiveness and supplier-competence concept of supplier portfolio is built on this.

### ***Integrated spreadsheets and supplier portfolio model***

G.A. Smith (2003), Analyzing logistics and supply chain difficulties may be greatly aided using spreadsheets. Spreadsheets may be used in a variety of ways and can be updated to reflect new possibilities. Making new software is analogous to the process of creating integrated spreadsheet models.

Based on current activities, the modeller creates an initial baseline model for comparison. It does this by generating hypothetical circumstances and then contrasting them with the actual one. Non-quantifiable elements and soft costs are considered in the final analysis. Spreadsheets may be used to examine the effects of business choices on factors such as available space, inventory, investment, and productivity.

It's vital for multinational corporations to have an efficient supply chain. In Liao and Hong (2007), the authors address these key challenges. The case study of a Japanese corporation operating in China exhibits a supplier portfolio entry approach that has not before been studied in the academic literature.

Based on theories of resource reliance and supplier networks, Lio and Hong develop a research model. Through a sequence of choices, the model demonstrates how profit maximisation may be achieved. Using the supplier portfolio model's primary advantages, the company may quickly and cost-effectively expand its worldwide network.

Two-phase supplier selection is introduced by Abbas Ahmadi and Amin Hosseininasab (2015). Some suppliers are only eligible for consideration when they meet certain criteria, which is why so many supplier selection studies focus on this aspect of consideration. This strategy is based on the long-term trend of supplier stability, value, and connection.

First, providers are evaluated and compared to each other using a certain set of keywords. The long-term effect of this value is then considered. In the second stage, an objective portfolio optimization model is developed. Measures a supplier portfolio by improving the anticipated value and formulation of providers while lowering their shared risk.

Due to the novelty of this process, a fresh perspective on the issue of supplier selection is being introduced. Using numerical testing, the suggested strategy picks providers with a lower chance of failure than other approaches.

There is a pressing need for SCM to be extended to other supply chains, assert Mentzer et al (2001). The supply chain activities of companies must also cooperate and coordinate as part of SCM. It is

important to note that supply chain unpredictability tends to be skewed as the chain goes upstream. Hence, figure 1 shows a conceptual framework.

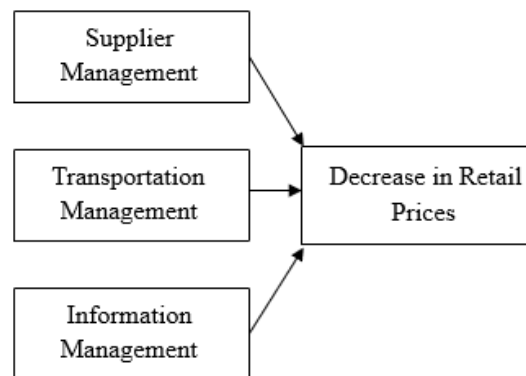


Figure 1. Conceptual Framework

### ***Proposed hypothesis***

There are following hypothesis that are formed through literature review:

- H1# effective management of Order has significant positive relationship with decrease in retail price
- H2# effective Transportation Management has significant positive relationship with decrease in retail price
- H3# Information Management in the chain has significant positive relationship with decreases retail price

### ***Research Gaps***

Most of the literature emphasizes the significance of supply chain management and the numerous SCM tools that effect the operations of the retailer. There is, however, a void that must be filled in the Supply Chain Management (SCM) process in order to identify the relevance of different variables on the SCM process. RFID implementations and the proper stocking of goods on shelves is one of the research topics. The smooth operation of the supply chain relies heavily on the presence of out-of-stock items. Gopal Valecha and Ravi Mathur's Footfalls (2010).

Inventory management is a major contributor to supply chain management inefficiency. Investing in the wrong inventory costs a lot of money, and this strains the company's financial resources.

The Gupta brothers, Raghav, Rohit, and Pranay (2010).

Supply chain management (SCM) is defined as the back end of retailing, and the author discusses the rise of collaborative models in retailing. With Pragya 2009 by Anil Rajpal.

### ***Supply Chain Models***

The finest company supply chain practises may be obtained by using pre-existing models or by developing one's own supply chain models. Supply chain models in retail have evolved throughout time, and these models include all the retail sector's current challenges. In general, shops have a difficult time dealing with issues including a sluggish rate of product turnover, phased designs, greater transportation costs, ineffective ordering methods, lengthy lead times, and subpar storage. These issues have been plaguing the FMCG retail industry for a long time. They still face these issues and are working hard to overcome them. Old and new business models may help shops build best practises and strategies for growth and development.

The finest company supply chain practises may be obtained by using pre-existing models or by developing one's own supply chain models. Supply chain models in retail have evolved throughout time, and these models include all of the retail sector's current challenges. In general, shops have a difficult time dealing with issues including a sluggish rate of product turnover, phased designs, greater transportation costs, ineffective ordering methods, lengthy lead times, and subpar storage. These issues have been plaguing the FMCG retail industry for a long time. They still face these issues and are working hard to overcome them. Old and new business models may help shops build best practises and strategies for growth and development. Listed below are MCG's models.

### ***The Resource Event Agent (REA) Model (Haugen & McCarthy, 2000)***

McCarthy and Haugen's resource event agent (REA) business model helps to broaden the scope of the existing approach even more, as described above. For example, it connects events, industries, and nations in various countries and industries. In essence, these connections are between activities, between agents, or between individuals. These gatherings aren't limited to business partners. Individuals in the REA supply chain model may be connected in this way, demonstrating its realism. These linkages are the primary emphasis of this model, which depicts the supply chain's performance in a comprehensive and thorough manner. A supply chain model of this sort may show the connections and characteristics between the many processes that make up the chain.

This model has the following benefits.

- REA can incorporate all supply chain across different several companies.
- This is a public domain model and can be used by anyone without any hurdles.
- In this model all activities can be included such as purchasing, transportation and manufacturing.
- This model can handle all the resources including cash, labor, and machines.
- There is internet hosted REA that can transfer and communicate information in different directions and dimensions.
- REA can accommodate a business system that is event driven.
- This model is corrected and found valid through different research and reviews.
- This model accommodates all the updates and all types of performance reports
- This model can incorporate other models and can use these models as its components.
- It can work well with other supply chain systems
- It can perform MRP and APS by itself.

Defining a process functional typology using this model is not possible due to the lack of detail provided by it. The strategic and tactical layers of this approach are not described in any depth. The amount of detail in this model is at a more basic level.

### ***The Supply Chain Operations Reference (SCOR) Model (Supply Chain Council, 2011)***

The supply chain activities of a successful organisation must be successfully handled to gain a competitive edge. Customer satisfaction is the most important factor in a company's long-term success. These kinds of strategies need to be implemented for businesses to keep up with the constantly shifting demands of their customers. It is possible to communicate, describe, and redesign complex management to gain a competitive advantage if it is captured in a process reference model. According to companies who are adopting this approach, businesses can gain selected prioritising for strategic activities by employing this model. Using this approach, it is possible to create performance goals.

Assessment of information requirements and alignment of organizational-functional connections are both possible uses of this tool in a company. In the SCOR model, business process reengineering, benchmarking, and best practise analysis are all described in detail. The SCOR model is widely utilised in academic, research, and clinical settings. In addition to the fields of sales and marketing, human resources, product development, and quality assurance in product, this model does not include information technology and information management. This model doesn't tell you how to run a specific company. SCOR and REA are very comparable models. This approach likewise focuses on the activities that are being carried out. Details at all levels are described and shown within a framework of hierarchy.

**The balanced scorecard (BSC) (Kaplan & Norton,1996)**

As a multidimensional framework, the BSC was created. A company's strategic objective is expressed and put into action using it at every level. The linking of goals, initiatives, and metrics to the organization's strategy enables this goal to be realised. There is a lot of business usage for the BSC. This format allows us a lot of flexibility when it comes to modification. The BSC is a lot more in-depth and extensive than most other exams. In most situations, the BSC operates in an isolated and solitary context. As a result, it is impossible to evaluate and assess the two independent scenarios of BSC usage against each other. Inability to recommend optimal practises at the level of activity is where it falls short.

**The balanced scorecard (BSC) (Kaplan & Norton,1996)**

A good model of a supply chain may be found in any of the three models listed above. However, to determine the optimal model for the retail sector of FMCG's, the following elements must be included:

1. It must be applicable and suitable for the retail sector of FMCG.
2. It must be able to talk about activities of supply chain that are standard.
3. At all levels and across all operations, it must be able to monitor the supply chain's performance Benchmarking should also be part of it.
4. It must be able to suggest some best practices of the supply chain.

There is following comparison of these three models in the table 1. Table 1. shows that the SCOR model meets each of the five requirements. An in-depth comparison of the BSC model and the SCOR model is made. Businesses utilize the BSC model a lot. So, it was concluded that the SCOR model is most suited for FMCG retail.

Table 1. Comparison criteria for the operational performance models

Criterion	REA	SCOR	BSC
Suitable for FMCG industry	Not strong	Very strong	Strong
Define supply chain activities that are standard	Not strong	Very strong	Strong
Performance measure and analysis at all levels/all activities	Not strong	Strong	Very strong
Provide benchmarking	Not strong	Very strong	Not strong
Suggest best practices of supply chain	Not strong	Very strong	Not strong

**The balanced scorecard (BSC) (Kaplan & Norton,1996)**

The SCOR model's performance characteristics are essentially the supply chain's capabilities. You may compare and contrast a supply chain's skills with those of other supply networks. The six performance qualities and 11 indicator variables are outlined in the table 2.

Table 2. SCOR model's performance characteristics

Performance attribute	Performance attribute definition	Performance indicator variables
-----------------------	----------------------------------	---------------------------------

Supply chain reliability	Delivering the proper product, at the correct time, in the correct condition and packaging, in the correct amount, with the correct documentation, to the correct client is a measure of the supply chain's success.	1. Perfect order fulfilment
Supply chain responsiveness	Delivery time to the client as measured by the supply chain.	2. Order fulfilment cycle time
Supply chain flexibility	A company's ability to adapt quickly to market shifts to obtain or retain a competitive edge.	3. Upside supply chain flexibility
		4. Upside supply chain adaptability
Supply chain costs	The expenses of running the supply chain.	5. Downside supply chain adaptability
		6. Supply chain management cost
Supply chain asset management	The ability of a company to effectively manage its assets to satisfy customer demand. Management of all assets, including both fixed and working capital, is included in this.	7. Cost of goods sold
		8. Cash-to-cash cycle time
Component management	Supply chain operations management includes overseeing suppliers and consumers.	9. Return on supply chain fixed assets
		10. Supplier management
		11. Customer management

### III. METHODOLOGY

A connection to existing knowledge was a primary goal of this research methodology. Theories and qualitative results from prior studies are the primary focus of this research. This is a topic that has been the focus of prior research and hypotheses. Using this sort of research technique, a researcher offered new study based on prior research.

In research, there are two types of methodologies that may be employed. Quantitative and qualitative techniques are being used here in equal measure. There are benefits and drawbacks to both techniques. In order to solve their particular challenge, the researchers make advantage of the qualities of each technique. This investigation used a variety of methods. The data needed to address the study question was gathered via the use of qualitative methodologies.

What, how much, and how many are some of the most common questions that quantitative approaches attempt to answer. The primary goal of quantitative approaches is to answer questions or test hypotheses in research. Small sample sizes may be accommodated by the use of the qualitative method. Qualitative approaches do not allow for the measurement and quantification of outcomes. There are several advantages to employing a qualitative method, such as providing an in-depth description and analysis. Research isn't constrained in this way, and neither are participant answers. Qualitative research, on the other hand, relies heavily on the researcher's talents and abilities. Most of the time, it's a reflection of the researcher's own values and worldview.

To conduct the study, the researchers will use an inductive research method that links hypotheses. Qualitative interviews gleaned from other research are also tied into the investigation. There is a strong emphasis on inductive research on ideas and qualitative results from previous studies. This style of research begins with a specific observation, which is utilised to construct the broader hypotheses and conclusions that are drawn from the study. Using this method allows researchers to better understand the environment in which they are doing their work. A second reason for selecting this is that it is well-suited to handling modest amounts of data. There is a drawback to this method in that it generates broad conclusions and outcomes. This raises doubts about the validity of the study and the conclusions that may be formed consequently.

Interviews were done as part of this study. These were lengthy, in-depth chats. These are unscripted, one-on-one conversations with individuals. The goal of these interviews is to get a sense of the participant's thoughts, feelings, and attitudes about the study issue at hand. The interviews have the

following advantages. Interviews that are conducted face-to-face between the interviewer and the interviewees are more effective.

Unstructured interviews allow for more adaptability because of the presence of the interviewer in close proximity to the interviewees, which lowers the non-response rate and raises the response rate.

It was necessary to gather data using questionnaires, which helped speed the interviews. At the scene, there were also questions being asked. As an alternative to conducting in-depth interviews, questionnaires were utilised to gather information from various members of society, including Saudi Arabian merchants and wholesalers. We asked the following questions in response to the following three research questions.

- Is there a difference in supply chain methods between organised and disorganised retailers?
- In what ways are supply chain management techniques affected by diverse factors?
- Supply Chain Practices provide merchants a number of potential advantages.

In addition to F Olken and D Rotem (1986) sampling is the simplest and most fundamental step in statistical analysis. Random sampling was utilised in the selection of the samples. A small group of people are chosen at random from a big group in a basic random sampling procedure. Each person is chosen at random in such a manner that the odds of getting chosen for a certain person are equal for everyone. Each group of k people has the same chance of being picked as another subset of k persons in this sampling approach. "Simple Random Sampling" is a term for this method. This is a non-biased or objective survey method. Where analysing all the data is unnecessary and time-consuming, random sampling techniques are used.

To determine the right sample size. Following procedure was adopted to get the proper sample size. Each interval is calculated with a high degree of certainty. The sample size may be calculated using any degree of confidence; however, researchers most often choose a level of certainty of 95%. (Saunders et al., 2000).

Primary data and secondary data are often employed in research. For a given research question, primary data is a sort of data that is generated by the researcher. Secondary data is information that has previously been gathered for reasons unrelated to the study's central question (Malhotra and Peterson, 2006). When it comes to data type, Cooper and Schindler (2003) say that method selection is the most important factor.

Our study relies on a combination of primary and secondary sources. Interviews, observations, and a questionnaire were used to get the main data, while journal articles, books, and newspapers were used to gather the secondary data. Various types of replies were gathered via a combination of random meetings and unstructured interviews with retail and distribution companies in the KSA market. Informed participants were given an opportunity to volunteer for research after being informed of the scope of the study. Respondents in the Saudi Arabian market were eager to participate, and interviews and questionnaires were conducted with a variety of people. The questionnaire-filling process took no more than 20 minutes. All of the interviewees' replies were transcribed. The information gathered from the survey takers and the replies they provided were then analyzed.

Interviews with KSA market merchants and distributors yielded a wealth of information, which was then organised into broad categories and subcategories. It may be said that this was a kind of content analysis. Content analysis enables researchers to organise qualitative data in a way that helps them address their research questions. Researchers utilised SPSS (Statistical Software for Social Science, Version 20.0) and MS-Excel to analyse data gathered via surveys. Descriptive statistics were calculated using statistical software. Researchers use MS-Excel to create a visual representation of their findings in order to get a better understanding of retail and supply chain management service trends and efficiency.

A Ng Chirk Jenn (2006), a questionnaire is used by the researcher to gather data in order to answer the study questions. Respondents provide the necessary data for the study's conclusion. To get information from a big number of individuals in a short amount of time, a questionnaire is the ideal option. In order to get reliable answers that can be generalised and comprehended, the questionnaire's layout and design are critical. Using a poor questionnaire might lead to inaccurate data and incorrect conclusions.

The questionnaire's questions were based on the study's research topic. The questionnaire's questions were crafted after careful consideration of the study issues. There were four primary sections of the questionnaire, each of which addressed all the necessary questions. Most of the questions were closed-ended, but a few were left open-ended. Closed-ended questions provide the following benefits:

- Answering questions that don't need much thinking is easy.
- In addition to being fast to respond to, they also aid comprehension by providing relevant information.
- An increase in the response rate is possible.
- Awkward responses may be avoided.
- It is possible to compare and contrast answers.

To get a more detailed answer, open-ended questions are employed, whereas closed-ended questions are more often used. According to this definition, validity is the degree to which a certain notion can be reliably assessed via a research investigation.

The research's validity may be judged by examining whether or not the results and conclusions pertain to the topic at hand (Saunders et al., 2007). External and internal validity are the two main categories of validity. When data can be generalised, we say that they have external validity. When research measures what it claims to measure, it is said to have internal validity (Cooper and Schindler, 2003). We must use methods that are appropriate to the task at hand in order to determine internal validity. As a result, we may classify as follows:

- An instrument's ability to answer a specific question is measured in terms of its content validity.
- Validity connected to criterion: the amount to which the predictive tool is sufficient for determining the specific criteria.
- It addresses the query and strives to get to the underlying construct.
- Construct validity

A lot of hard work went into ensuring the research's validity. In addition to the English translation, the survey's questions were also translated into Arabic for ease of comprehension. Reliable sources were used to get the data. A 95% degree of confidence and a 13% error margin surround the study's findings, as previously stated.

The degree to which data collection and evaluation methods provide consistent outcomes is what is meant by reliability. When a technique yields the same outcomes every time it is used, it is dependable. Measures of dependability include the following questions.

- Will the findings be the same if the tests are conducted again and again?
- Other observers may have seen the same things.
- Is it clear how the primary data was made sense of?

Reliability is threatened by four different sorts of factors, according to Robson (2002) First and foremost, there was a participant mistake in choosing neural time. Another way in which participants might be swayed from telling the truth is through pressure from the leadership of the organisation. When the same question is posed in a variety of ways, an observer may make a mistake. One last possibility is observer prejudice.

Participants were given appropriate time to complete the survey. Furthermore, the privacy of the data was protected. As a result, the questionnaire's dependability was unquestionable. In addition, the questionnaire was constructed in such a manner that findings were as free of bias and mistake as possible.

#### IV. IMPLEMENTATION

##### *Descriptive Statistics:*

The first part of questionnaire was about the store profile and the demographics of the retail store. The pie chart below in figure 2 shows the percentage of respondents from organized and unorganized retailers. The 81% of the respondents were organized retailers and 19% of the respondents were unorganized retailers. The next information about store profile was the annual sales of the store. Figure 3 shows the percentages of sales of the respondent stores. So, 50% of the respondents' stores have sales in 15- 20 million, the other 20 percent have sales between 10-15 and the 30% have sales more than 20 million.

Number of employees of the respondent stores is also an important demographic factor. 10 percent of the stores had less than 10 employees, 20 percent of the stores had more than 30 employees, 30% of the stores have 20-30 employees and 40% of the stores have 10-20 employees (refer figure 4).

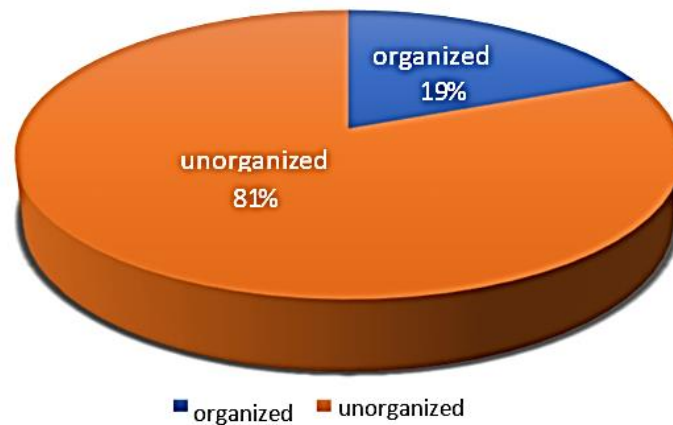


Figure 2. Type of store.

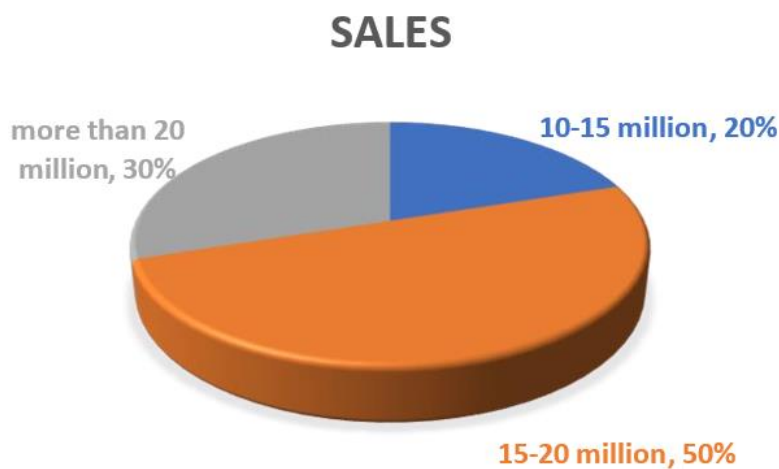


Figure 3. Sales distribution.



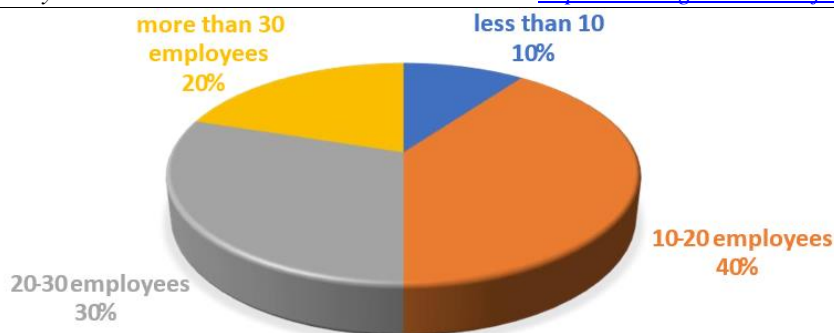


Figure 4. Number of Employees in store.

**Reliability analysis**

The table 3 illustrates the reliability of each element separately, as well as the instrument's overall reliability. The instrument's overall dependability is 0.814, indicating its suitability for a wide range of quantifiable studies. In addition, the individual dependability of each build is close to 0.6, which indicates that each build is trustworthy for a variety of measured tests.

Table 3. Variables and Values of Cronbach alpha

Variable	Cronbach alpha
Decrease in retail prices (DIP)	0.676
Order Management (OM)	0.549
Information Management (IM)	0.785
Transportation Management (TM)	0.627
Overall Reliability	0.814

**Correlations**

The Pearson's correlation of each variable is 1 if viewed diagonally. Variables have a perfect symbiotic relationship. Price decreases and order management have an inverse correlation value of 0.5337. The total number of people who answered both questions in the sample is 228. Correlation coefficient P-value is 0.000, which means there is no significance. Because the P-value is less than 0.05, there is a statistically significant correlation between lower retail pricing and better supplier management.

Information management has a 0.285 correlation coefficient with lower retail costs. The total number of people who answered both questions in the sample is 228. This correlation coefficient has a p-value of 0.000. Because the P-value is less than 0.05, there is a statistically significant correlation between lower retail pricing and better information management.

Reduced retail costs and better transportation management have a correlation value of 0.379. The sample size is 228 people who answered both questions. The correlation coefficient has a P-value of 0.000. Because the p-value is less than 0.05, there is a statistically significant correlation between lower retail pricing and transportation management.

Table 4 explains the model that R is 56.9% which shows a positive relationship between the variables. Adjusted R Square shows .315, which means this model, is explaining 32.4% of the variance. Table 5, F value is 35.749 and Sig value is under 0.05 which shows model is fit and significant.

Table 4. Correlations

DIP	Pearson Correlation	1	.537**	.285**	.379**
	Sig. (2-tailed)		.000	.000	.000
	N	228	228	228	228
OM	Pearson Correlation	.537**	1	.260**	.392**
	Sig. (2-tailed)	.000		.000	.000

	N	228	228	228	228
IM	Pearson Correlation	.285**	.260**	1	.665**
	Sig. (2-tailed)	.000	.000		.000
	N	228	228	228	228
TM	Pearson Correlation	.379**	.392**	.665**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	228	228	228	228

Correlations: Predictors: (Constant), OM, IM, TM

Table 5. Explanation Of Model

Model R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		df1	df2	Sig. F Change
				R Square Change	F Change			
1	.569 <sup>a</sup>	.324	.37337	.324	35.749	3	224	.000

Predictors: (Constant), OM, IM, TM

Table 6. ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.951	3	4.984	35.749	.000 <sup>b</sup>
	Residual	31.228	224	.139		
	Total	46.179	227			

a. Dependent Variable: DIP

b. Predictors: (Constant), OM, IM, TM

Table 7. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Beta	Lower Bound
1	(Constant)	1.031	.270		3.819	.000	.499	1.563
	OM	.526	.068	.459	7.684	.000	.391	.661
	IM	.047	.059	.059	.803	.423	-.069	.164
	TM	.151	.073	.160	2.066	.040	.007	.295

Dependent Variable: DIP

**Regression Analysis**

When it comes to FMCG retail establishments, order management and transportation management were shown to have a significant effect on retail pricing by using regression analysis.

According to the results of  $t = 7.684$  and  $\text{sig} = 0.000$ , the relationship between order management and retail price drop is negligible.

It's not clear whether or whether the drop in retail pricing is linked to better information management, as  $t = 0.803$  and  $\text{sig} = 0.423$  show. The chart clearly illustrates that a 0.047-coefficient improvement in information management results in a 4.7% drop in retail prices for a change of 1%.

$T = 2.066$  and  $\text{sig} = 0.040$  suggest that transportation management has an insignificant but favorable influence on retail price decreases ( $t = 2.066$ ). Retail prices fall by 15.1% when transportation management changes by 1%, as shown by the table 6-7, which is proportional to a 0.151 coefficient change. The results of study are shown in the tables, which was filled out by respondents from various retailers and retail shop workers of various ages, qualifications, gender, and locations. All 228 respondents agreed/accepted that order management and transportation management had a substantial influence on retail price decreases, according to the SPSS findings of the independent variables with Sig values less than 0.05 and one independent variable with Sig values more than 0.05.

Table 8. Hypotheses Assessment Summary.

S.N.	Hypotheses	Sig. Value	Empirical Conclusion
1	H1: order management has a significant positive impact on decrease in retail prices	0.000	Accepted
2	H2: transportation management has a significant positive impact on Customer decrease in retail prices	0.040	Accepted
3	H3: Information management has a significant positive impact on decrease in retail prices	0.423	Rejected

## V. CONCLUSION AND RECOMMENDATION

The overall conclusion that we can draw from the research is that supply chain is the main part of success of the retail sector of FMCG's industry and supply chain needs to be modified to make the prices of the goods low. If a retail store has effective supply chain measures and adopts the best possible functions, models and practices then it can reduce prices for the final prices. The overall studies show very important and interesting facts about the supply chain practices and how these practices can help to make the retail store to grow. We examined the supply chain in the retail sector of FMCG's retail sector, looking at the numerous aspects that impact the supply chain. We also found out the benefits that the retailers obtain from the effective supply chain management. Studies also point to methods for lowering retail pricing for end customers. The research also reveals the practises that merchants utilise to please their consumers by giving value. Supply chain management procedures may be improved by this study. The impact of logistics and supply chain management on retail sector was also examined by our researchers. The role of logistics and supply chain management in retail was also a focus of our research. As a result of our research, we may draw the following conclusions:

- 1- The functions of supply chain that are most important and the practices that can reduce retail prices are as follows:
  - a. The functions of supply chain that are most important and the practices that can reduce retail prices are as follows
  - b. The administration of orders is of paramount importance. Fast-moving items, in particular, need merchants to be more sensitive to client demand shifts, and this is particularly true. To reduce the ultimate price of a product, merchants must construct a supply chain that meets these criteria and purchase the correct things at the right time. The success of a retail shop may be directly attributed to its ability to effectively handle orders.

- c. If the retailers make them according to the needs of the customer then it leads to high turnover rate leading to high sales and hence there is no need for warehousing and empty shelves.
  - d. The other important factor for reduction of price is transport management. If the best transport practices are used, then it leads to decrease in prices of final goods so this is an important factor for making prices cut down.
  - e. The other factor that is information management. The research shows that this factor is important, but it is less significant.
- 2- Studies shows the conclusion that if the retailers make their supply chain effective through adopting modified techniques and use models that fit for the FMCG's sector then the business can get success.
  - 3- A study of the literature and research into several models suggests that the SCOR model is the one that is most appropriate for the FMCG industry, particularly for retailers in Saudi Arabia. To construct an effective supply chain utilising this SCOR model, best practices and procedures may be obtained.
  - 4- Literature review shows that a supply chain is effective if the retailer focusses on best practices of customer relationship management.
  - 5- The best thing to get the customer satisfied is customer relationship management. The retailers that focus on their customers are the most successful retailers.

The research has suggested many recommendations for the retailers of KSA. This research gives suggestions for the retailers to practice in terms of retail sector of FMCG's. The retailers can get maximum benefit from the research because in this study various fine measures are drawn out as best practices and most important functions of supply chain.

- 1- The focus of the retailers should be to get more responsive to the sudden changes in demand especially for fast moving goods the changes in customers' demand matters a lot.
- 2- The retailers must be more focused on their way how they place order and when they place order.
- 3- The fast-moving goods are of high turnover rate so the retailers must be focused on keeping the shelves filled with the goods that are sold highly.
- 4- The retailers must keep their transportation cost low to cut the final retail price for the customers.
- 5- The literature review and study of various theories suggests that the retailers must apply a mix of supply chain models to get maximum benefit from the supply chain practices.
- 6- The retailers must keep their lead time low.
- 7- Retailers are recommended to build positive relationships with the customers and must adopt customer relationship management strategies.
- 8- The studies suggest that there must of coordination in the supply chain components.
- 9- The studies suggests that there must be effective information sharing so that supply chain components help each other to get maximum responsiveness to a particular demand change by the customers.
- 10- The supply chain's effectiveness is measured by its ability to deliver the proper product, at the correct location, at the correct time, and in the correct condition and packaging. If you don't meet all these requirements, you won't be allowed to ship your goods.

11- To obtain or sustain a competitive edge, a company's supply chain's responsiveness to market changes is a critical aspect.

12- To reduce retail pricing, the supply chain's operational expenses must be as low as possible.

13- Customer value is delivered, and profits are maximized via the effective management of supply chain components such as suppliers and consumers.

**Conflict of interest:** The authors declare that they have no conflict of interest.

**Ethical statement:** The authors declare that they have followed ethical responsibilities.

## REFERENCES

- [1] Amarnath Mitra & Sunul Bhardwaj (2010) “Alignment of Supply Chain Strategy with Business Strategy”, in The IUP Journal of Supply Chain Management, Vol. 7, No 3, pp 49-65.
- [2] Amin Hosseininasab, Abbas Ahmadi (2015), Selecting a supplier portfolio with value, development, and risk consideration, European Journal of Operational Research, Volume 245, Issue 1, Pages 146-156.
- [3] Bonfill, A. Espuña, L. Puigjaner(2008), Decision support framework for coordinated production and transport scheduling in SCM, Comp. & Chemical Engineering, Vol. 32, I. 6, pp1206-1224
- [4] Can Eksoz, S. Afshin Mansouri, Michael Bourlakis (2014), Collaborative forecasting in the food supply chain: A conceptual framework, International Journal of Production Economics, Volume 158, Pages 120-135, Helms, M.M., Etkin, L.P. and Chapman, S. (2000), "Supply chain forecasting – Collaborative forecasting supports supply chain management", Business Process Management Journal, Vol. 6 No. 5.
- [5] Dath, Srikantha & Rajendran, Chandrasekharan & Narashiman, K. (2008). A study on supply chain management from the retailer's perspective. International Journal of Procurement Management. 1. 10.1504
- [6] Deepak Bhagat and U.R. Dhar (September 2011), “Agriculture supply chain management: A Review”, in The IUP Journal of Supply Chain Management, Vol. VIII, Number – 3, pages 7-25.
- [7] Gerald Reiner, Johannes Fichtinger(2009), Demand forecasting for supply processes in consideration of pricing and market information, International Journal of Production Economics, Volume 118, Issue 1, Pages 55-62
- [8] Goswami, P., & Mishra, M. S. (2009). Would Indian Consumers move from Kirana
- [9] Hau L. Lee, Seungjin Whang (2000), Information sharing in a supply chain, International Journal of Manufacturing Technology and Management Jan , Vol.
- [10] Heale R, Twycross A (2015), Validity and reliability in quantitative studies Evidence-Based Nursing 18:66-67.
- [11] Holger Schiele (2012) Accessing Supplier Innovation By Being Their Preferred Customer, Research-Technology Management, 55:1, 44-50,
- [12] Holmström, J., Främling, K., Kaipia, R. and Saranen, J. (2002), "Collaborative planning forecasting and replenishment: new solutions needed for mass collaboration", Supply Chain Management, Vol. 7 No. 3, pp. 136-
- [13] İpek Koçoğlu, Salih Zeki İmamoğlu, Hüseyin İnce, Halit Keskin(2011), The effect of supply chain integration on information sharing: Enhancing the supply chain performance, Procedia Social and Behavioral Sciences, Volume 24, Pages 1630-1649,
- [14] Jens Ehm, Michael Freitag (2016), The Benefit of Integrating Production and Transport Scheduling, Procedia CIRP, Volume 41, Pages 585-590
- [15] K.M. Sharath Kumar (December 2011), “Supply Chain Management: An integrated framework for commodity supply chain in Higher Education Institutes”, in Prabandhan: Indian journal of Management, Volume- 4, Number – 12, pages 4-13.

- [16] Liao, K. and Hong, P. (2007), "Building global supplier networks: a supplier portfolio entry model", *Journal of Enterprise Information Management*, Vol. 20, No. 5, pp. 511-526.
- [17] Luis Aburto, Richard Weber (2007), Improved supply chain management based on hybrid demand forecasts, *Applied Soft Computing*, Volume 7, Issue 1, Pages 136-144, ISSN 1568-4946
- [18] Mahdi Abolghasemi, Eric Beh, Garth Tarr, Richard Gerlach (2020), Demand forecasting in supply chain: The impact of demand volatility in the presence of promotion, *Computers & Industrial Engineering*, Volume 142, 106380
- [19] McCarthy, T.M. and Golicic, S.L. (2002), "Implementing collaborative forecasting to improve supply chain performance", *International Journal of Physical Distribution & Logistics Management*, Vol. 32 No. 6, pp. 431-
- [20] Plazibat & Sladana Brajevic (2009), Ivana "Supply Chain Management in Retail Industry," *Business Logistics in Modern Management*, Josip Juraj Strossmayer University of Osijek, Faculty of Economics, Croatia, vol. 9, pages 133-140.
- [21] Sanjita Jaipuria, S.S. Mahapatra (2014), An improved demand forecasting method to reduce bullwhip effect in supply chains, *Expert Systems with Applications*, Vol. 41, I 5, pp. 2395-2408
- [22] Smith, G.A. (2003), "Using integrated spreadsheet modeling for supply chain analysis", *Supply Chain Management*, Vol. 8 No. 4, pp. 285-
- [23] Stores to Organized Retailers when Shopping for Groceries? *Asia-Pacific Journal of Marketing and Logistics*. <http://dx.doi.org/10.1108/13555850910926281>
- [24] Suhong Li, Binshan Lin (2006), Accessing information sharing and information quality in supply chain management, *Decision Support Systems*, Volume 42, Issue 3, 2006, Pages 1641-1656,
- [25] Tapan K Panda & Prashant K Mohanty (September 2012), "Supply Chain Management Practices & Scope for Bullwhip effect in Indian Dry Grocery Business", in *The IUP Journal of Supply Chain Management*, Volume- IX, Number- 3, pages 63-85.