

**SUPPLY CHAIN MANAGEMENT OF PACKAGED HEALTH FOOD DRINKS PRODUCTS IN INDIA****Ms. Pinky Kumari****Dr. Daryab Singh**

Research Scholar

Supervisor

Department of Management

Department of Management

Malwanchal University Indore (M.P.).

Malwanchal University Indore (M.P.).

ABSTRACT

Facilitating the Following is What a Supply Chain Is Designed to Do The client, suppliers, and intermediaries are the income sources in a supply chain. The movement of resources (whether data, goods, or money) through the supply chain is a major expense driver. Managing the processes and information that move goods and services from one point in the supply chain to another in order to increase overall profitability is the goal of supply chain management. Raw material, storage, transportation, technology, competitiveness, etc. are only few of the problems that the food processing businesses in India have to deal with. The food processing businesses in Manipur confront a number of unique obstacles, including a lack of readily available raw materials, difficult transportation due to the region's mountainous geography, and fierce rivalry from multinational corporations. Food waste occurs at every level of the supply chain, but is mostly due to inefficient management. The purpose of this study was to investigate the current state of the food processing industry's supply chain management in Manipur, India. The research takes into account 45 different food processing plants throughout India that have been approved by the Food Safety and Standards Authority of India (FSSAI). Straightforward statistical methods are used to present the findings. The article presents a number of conclusions based on the data, including topics such supply chain management companies, IT, the market, raw materials, etc.

KEYWORDS: *food processing industry, food processors, Supply chain management, Healthy food product*

INTRODUCTION

Due to the significant environmental implications of the food system as it is now organized, food is essential not just to individual well-being but also to the well-being of the planet (2). Disasters like the COVID-19 pandemic, on the other hand, have the potential to destabilize our food system (3) and alter our perspectives on and approaches to nutrition. Border and other logistical limitations restricting the movement of products and people raised the danger of food shortages owing to disrupted supply chains, especially those connected to labor shortages [as can be observed in the India. Although these lockdowns helped slow the first wave of the pandemic's spread, they also had major negative consequences for people's daily lives. Although this research focuses on shifts in food intake, changes in people's food-related behavior are also expected to have repercussions for the resilience of food systems, especially given the scope of the pandemic and its impact on the food supply chain.

Using a variety of sustainability indicators separated into the following seven categories—nutrition, environment, food affordability and availability, sociocultural well-being, resilience, food safety, and waste—they quantified the current status of the performance of national food systems in more than a hundred countries. This is why all participants in the Food and Beverage (F&B) supply chain have made sustainability a top priority. The rising public awareness of the need of protecting the environment and improving public health necessitates that they do so as well.

There are a large number of smaller firms in the soft drinks business, with just a few of international corporations dominating the market. Over the last 50 years, its use has skyrocketed. In addition, changes in consumer habits have caused a shift in demand. An intriguing application domain to enhance IS performance, the soft drinks business accounts for 14.03 percent of the CPG marketplace. In contrast to the inaccurate predictions made by 'peak resource' models, the expansion of industrial infrastructure has continually ensured the robustness of food supply systems. This is due to the fact that models focused purely on restricting carrying capacity fail to account for other characteristics associated with sustainable supply chains, such as contractual trust and organizational cultures. If you want to live a long and healthy life, you need to make sure you always have access to the food you need to fuel your body. This concept is known as "food security." The World Food Summit in 1996 created a universally agreed concept upon which this framework is built.

LITERATURE REVIEW

Vidya Verma et.al (2022) The importance of sustainable supply chain systems and their management becomes vital in light of the increasing food and beverage consumption patterns throughout emerging nations. The focus of the studies is an analysis of the subject's growth with respect to its theoretical foundations. Insights into hitherto unexplored areas are provided by the study as well.

Benjamin Wood et.al (2021) One of the primary causes to the global burden of illness is unhealthy diets, and the public health profession has grown more critical of the role that large businesses play in encouraging unhealthy diets. Public health, business, legal, and media content databases (including Scopus, Medline, ABI Inform, Business Source Complete, Thomas Reuters Westlaw, Lexis Advance, Factiva, and News Bank) and grey literature were systematically reviewed and analyzed. The collected data was subjected to a thematic analysis influenced by Porter's "Five Forces" model. The selection process resulted in 213 papers being included. Six interconnected strategic objectives were used to classify the market strategies (n=21) and related practices of dominant processed food manufacturers identified in the documents: i) reduce intense competition with equivalent sized rivals and maintaining dominance over smaller rivals; ii) raise barriers to market entry by new competitors; iii) counter the threat of market disruptors and drive dietary displacement in favor of thei. It is possible that countervailing public policies, such as those related to merger control, unfair trading practices, and public procurement, could be used to address market-power imbalances as part of efforts to improve population diets, and the typological framework is well-positioned to inform general and jurisdiction-specific market strategy analyses of dominant processed food manufacturers.

Thokchom Suranjoy Singh et.al (2020) Numerous sources have reported alarmingly on the worldwide food problem and food waste, and many people and organizations are working hard to find solutions. In India, poor distribution systems lead to the waste of around 30 percent of the country's agricultural output. Several holes in supply chain management are known to exist. Raw material, storage, transportation, technology, competitiveness, etc. are only few of the problems that the food processing businesses in India have to deal with. The food processing businesses in Manipur confront a number of unique obstacles, including a lack of readily available raw materials, difficult transportation due to the region's mountainous geography, and fierce rivalry from multinational corporations. Food waste occurs at every level of the supply chain, but is mostly due to inefficient management. The purpose of this study was to investigate the current state of the food processing industry's supply chain management in Manipur, India. The research takes into account 45 different food processing plants throughout India that have been approved by the Food Safety and Standards Authority of India (FSSAI). Straightforward statistical methods are used to present the findings. The article presents a number of conclusions based on the data, including topics such supply chain management companies, IT, the market, raw materials, etc.

Abhay Goyal et.al (2019) In India, "Carbonated Soft Drinks (CSD)" account for the vast majority of the beverage industry's sales, at about 16,000 crore. It's no surprise that CSD's compound annual growth rate (CAGR) in 2016 was a whopping 71%, given that it's customers' top pick and the industry as a whole is

expanding at a rapid clip. More than 5.9 billion liters of soft beverages are consumed annually in India, which is an amazing number in and of itself. These numbers are in line with a broader, more worrying pattern. As the prevalence of cardiovascular disease, diabetes, and obesity continues to rise in India, sugar-sweetened drinks have become the direct cause of one in every 200 fatalities in the country. Because of this, customers now favor health and wellness items at a higher rate than ever before. In response, the government of India is considering implementing a "Fat Tax," which would require producers of sugary sodas like Pepsi to prominently display the calorie, fat, and sodium content of their goods. Carbonated soft drinks like Pepsi, Coke, and Sprite are taxed at 40% under the new Goods and Services Tax (GST) enacted by the government of India, whereas fruit-based or fruit-pulp beverages are taxed at a more reasonable 12%. Reduced tax rates will encourage the purchase of fruits, which will increase agricultural output. As a result of these regulations and rising consumer awareness, both market leaders in the soft drink industry (Pepsi, Coke, etc.) and its rivals (Xalta, Twiss, etc.) are launching fruit-based aerated/carbonated drinks. The purpose of this empirical study is to examine changing consumer habits and the existing market for fruit-based drinks in India. Both qualitative and quantitative methods will be used to examine what influences customers to switch to less unhealthy carbonated beverage options.

c. ganeshkumar et.al (2017) This paper's goal is to provide a thorough analysis of existing research on the topic of agri-food supply chain management. To determine which pieces of data have had the most impact, a thorough literature review was conducted. Researchers may utilize this paper's findings to inform theory development, while practitioners can focus on filling in the blanks on the scope and boundaries of agri-food supply chain management. This study is the first effort at conducting a systematic literature review of the literature on agri-food SCM methods applicable to emerging nations like India. Online databases such as Scopus, EBSCO, and Google Scholar were mined for a decade's worth of research publications and other materials pertaining to agri-food supply chain management (2006-2016). Content analysis is followed by descriptive analysis in this research. The next step is to categorize the agri-food SCM literature into four categories: a general literature review of the agri-food supply chain, policies affecting the segments of the agri-food supply chain, the segments themselves (their structure and their behavior), and the performance of the segments. The literature gap on the topic of agri-food supply chain management is explored, and these four areas are studied in depth. In conclusion, the Indian potato supply chain is examined as a full example, and its features are outlined in great depth.

Taste, Texture and Flavour of the Healthy Drink Product: However, "Carbonated fizzy drinks" are still widely used despite the fact that the market is always developing new, cutting-edge tactics for success. They are often used as a drink of choice. Companies are facing more difficulty in creating beverages with genuine flavors as customers want healthier options. Consumers have been more discerning in recent years, and as a result, businesses are increasingly concentrating on creating goods that appeal to upscale palates. The drink must have a taste and consistency that are comfortable for the consumer. In order to satisfy the growing demand from customers, businesses are turning to a variety of flavor-texture interaction technologies.

Product Packaging: Consumers' decision to purchase a product may be greatly influenced by the quality of the packaging it comes in. The marketing mix includes packaging, which has a significant impact on the creation of price points, unique product characteristics, and advertising campaigns. The availability and visibility of a product on store shelves, as well as the marketing of that product, are directly related to its packaging. It's a reflection of the company's potential for originality, originality, modernity, and cutting-edge features (Misbah Ehsan, 2015). A product's packaging may help establish its identity in customers' perceptions and in the marketplace. Uniqueness, differentiation, and even an iconic brand image may all be achieved via clever and aesthetically pleasing package design. The number of units sold and the frequency with which a product is stocked on store shelves may be directly influenced by the pack size and quantity. Information provided by labels on product packaging has the potential to influence consumers' decisions to purchase the item. Customers are more likely to buy a product after learning about its benefits, how to use it, and the product's name, price, content, and proper information.

Consumer Awareness about benefits of healthy drinks: Modern society's emphasis on material possessions has led to the normalization of practices that have detrimental long-term effects, such as sedentary lifestyles, high levels of stress, and bad diets. Massive advertising of high-fat foods, sugary snacks, and sugary beverages is a likely contributor to rising rates of unhealthy eating. The prevalence of chronic illnesses and those connected to obesity rises in tandem with the prevalence of teenage consumers of unhealthy foods, and these eating patterns become the norm. Obesity is just as common in industrialized nations as it is in less developed ones. Schrempf (2014) claims that obesity's bad health effects surpass those of smoking, while other data shows that obesity and chronic illnesses account for 70% of global fatalities. An additional technique for encouraging healthy eating is the dissemination of education campaigns warning of the perils of drinking sugary (high calorie) and carbonated (fizzy) beverages containing caffeine. A large body of evidence supports the use of health and wellness education as the primary strategy for increasing people's intake of nutritious foods.

ENERGY DRINKS MARKET IN INDIA: A BIG OPPORTUNITY

Estimates place the energy drink industry in India at over Rs 700 crore, with annual growth of 20-25%. According to research, the market for carbonated beverages is close to Rs 6,000 crore and expanding at a rate of 10-12% yearly. Urban consumers are turning to energy drinks as a way to keep up with their hectic schedules, a trend noted by Euromonitor International. Most of them would keep drinking energy drinks to feel more energized and alert throughout the day. Energy drink prices were cited as a factor that might stunt expansion in secondary and tertiary urban centers.

"India is a promising market for the development of the energy drink industry. Narayan Limbasiya, Director of Rajkot-based herbal health products producer and supplier Vedantika Herbals, agreed that "there are many participants in the industry."

In 2013, international corporations had a staggering 69 percent of India's off-trade value share of the energy drink industry, with market leaders like Red Bull GmbH at the helm. Coke, PepsiCo, Monster Beverage, Spitz KG, Krungsiam Beverage, JK Ansell, KG Functional Beverages, Hector Beverages, Heinz India, Bisleri, Vedantika Herbals, Dabur, Goldwin Healthcare, and XXX Energy Drinks are just few of the numerous companies operating in this market (local). Even while Red Bull is still the market leader in terms of value share, Euromonitor found that it has been losing ground to newer competitors like Monster and KS.

The Food Safety and Standards Authority of India (FSSAI) has previously established standards for energy drinks in light of the potential dangers posed by their high caffeine content. Manufacturers of energy drinks should put their money into new, safer goods. Manufacturers of energy drinks should put their money into new, safer goods. The new administration has even urged the cola industry to consider lowering the amount of sugar in their products.

SCM Functions in the Food Industry

Supply chain management in the food industry is an interdisciplinary field that strives to shed light on the chain, aid in the management of individual links in the chain, and promote the growth of research in the field. Inbound logistics, internal logistics inside a facility, and external logistics are the three main parts of the logistics supply chain as a whole. Connectivity between logistics-related processes.

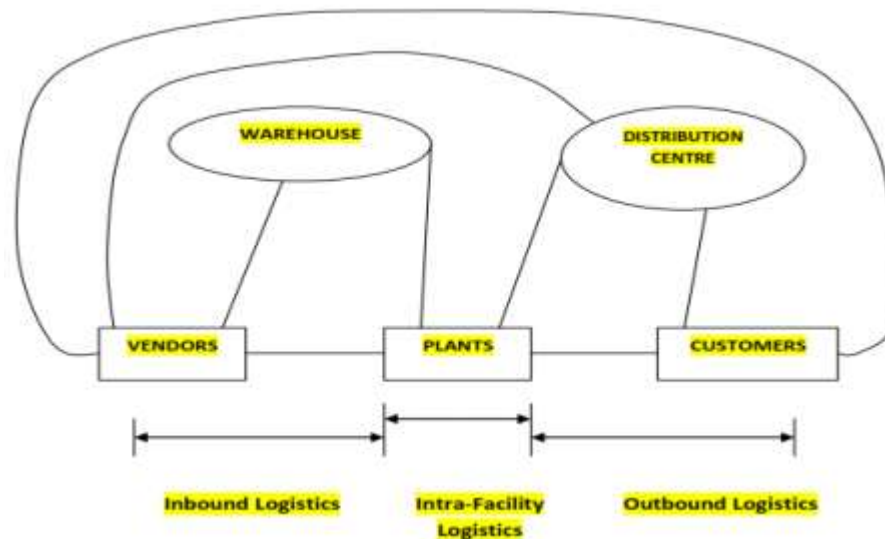


Figure No. 1: Illustration of various disciplines in the food industry

Following the aforementioned flowchart will help guarantee a qualitative approach.

DISCIPLINES IN FOOD INDUSTRY

Planning, arranging, and managing the flow of goods and services from suppliers to end-users or customers is the focus of a study of SCM4-5 in the food supply industry. Supply chain management, logistics, and business operations are all parts of integrated logistics. Careful consideration of every facet is essential.

Disciplines of food SCM areas depicted in the figure given below:

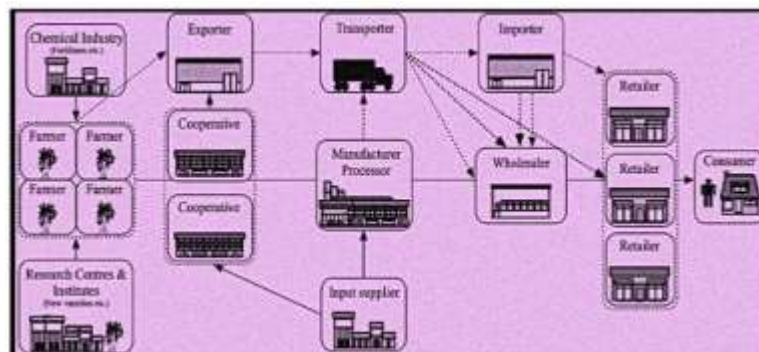


Figure No. 2: Disciplines of Food Supply Chain (Illustration)

Technology advancements in SCM fueled by enhanced communication have the potential to dramatically alter the dynamic between supply chain partners, leading to increased company efficiency and revenue in the food sector. The research should be organized in a "farm to fork" fashion, taking into account many different parties and processes along the way, from the initial idea to the final product. This includes consumers, perceived risks, product safety, procurement, livestock systems, crop production, food manufacturing, retail, wholesale, and catering. The logistics of supplying groceries to stores, including the storage and transportation of perishable goods and the transportation of organic and temperature-controlled items, are given special attention. Future food supply chain management will likewise need a last look. As shown in Fig.2, the SCM solution map covers all relevant problems in the food industry. These considerations must be included during model development.

RECOVERY STRATEGIES AND MARKET GROWTH OF FOOD SUPPLY CHAIN

Since the COVID virus may live for a very long period on hard surfaces like metal, plastic, etc., it is imperative that those working in the food service industry practice strict hygiene. In addition, the food processing facilities should be constructed to avoid viral contamination. Self-hygiene, health issues of the workers, use of self equipment like gloves, masks, helmets, maintain social distance, sanitized surfaces and work areas, safe delivery of food, etc. are all examples of safety measures that should be taken to ensure the continuous flow of the food supply chain at each stage. The last step of the food supply chain is notoriously difficult for preventative interventions since it causes anxiety in so many individuals (Rizou et al., 2020).

Pectin, phenols, essential oil, isothiocyanates, carotenoids, and flavonoids are only some of the bio-organic components that may be recovered from wasted food and put to good use in other products. These bio-organic substances are put to use as food, vitamins, gelling agents, and preservatives.

In order to ensure food facilities that do not allow the transfer of microbes by humans, several robot frameworks might be used. By deciding on information-driven autonomous decisions in manufacturing, the fourth business revolution is presently playing a key role. Automation provides a new chance to increase profits by 25% by completing tasks like stacking/emptying, arranging, and packing more quickly and accurately than humans can.

The battle against COVID-19 requires uniformity in approach from a variety of groups. COVID-19 symptoms of workers, visitors, and vendors should be checked first at the organization's front door (for example, temperature screening, monitoring the employees to wear masks at the face, and hand gloves). Warehouses and other workplaces might be rearranged to keep employees at a safe distance from one another. The spread of COVID-19 can be slowed with the use of robots.

COVID-19 EFFECT ON AGRI AND FOOD SUPPLY CHAIN

The Food and Agriculture Organization has noted that COVID-19 has a significant impact on both food supply and food demand (FAO, 2020a). These two factors have a direct impact on food security, which puts the food supply at risk. The widespread economic damage that pandemics cause is a common driving factor. COVID-19 affects the whole cycle from the field to the customer, as can be observed by looking at the food inventory network, one of the possible key sectors of the economy. There is now significant concern over food production, preparation, transportation, and solicitation because of recent issues in the food stock organization. Covid overcame barriers to worker advancement, restricted food trade methods, and monetary growth in the food production organization. Problems with processing may "disconnect" the fresh food market, leading to an overabundance for suppliers and a shortage for consumers. In certain cases, demand has dropped, hinting at a temporary oversupply (for example, milk for cheddar, potatoes for French fries). Concurrently, during the outset of the pandemic, shoppers occasionally saw bare shelves as food supply quickly shifted to meet the unexpectedly high demand (OECD, 2020).

CONCLUSION

Agriculture Produce (Rice, Pulses, grains, flours, Dried Foods, Sugar, Spices, Fruits & Vegetables, Cereals, Organically derived Produce), Additives & Supplements (wellness, Diet & Health, animal feed, Fishery), Bakery Ingredients (Yeast, Glutens, improvers, Natural flavors & extracts, Colors, Oleoresins), Canned Foods (vegetable broths, cut fruits Firms require sharp understanding of the precise technique that will lead them to success if they are to successfully capture the market and emerge as market leaders. While tracking down Covid in the food region and general circumstances isn't recognized as a need at this time, the possibility of disease transmission via the food area is now seen as minor. However, as we transition to a post-lockdown norm, general health monitoring will be increasingly dependent on the advancement of substantial biological equipment.

REFERENCE

1. Wood, B., Williams, O., Nagarajan, V. et al. Market strategies used by processed food manufacturers to increase and consolidate their power: a systematic review and document analysis. *Global Health* 17, 17 (2021). <https://doi.org/10.1186/s12992-021-00667-7>
2. Vidya Verma et.al “Sustainable Supply chain Systems of Food and Beverages SMEs in developing countries: Theoretical perspective” Vol. 2 No. 1 (2022): *Journal of Decision Analytics and Intelligent Computing* /
3. C. Ganeshkumar et.al “Agri-food Supply Chain Management: Literature Review” Vol.9 No.2, March 2017
4. Abhay Goyal et.al “Enhancing Consumer Preference towards healthy drinks” March 2019, Vol 13, Issue No.1
5. Thokchom Suranjay Singh et.al “Supply Chain Management of Food Processing Industry in Manipur: Challenges and Perspectives” Singh & Akoijam *International Journal on Emerging Technologies* 11(1): 36-42(2020)
6. Armitstead, A. (1998). The national health survey- consumer attitudes to health and food. *Nutrition and Food Science*, 98(2), 95-98.
7. Deshpande, R. P., Chinnan, M. S. & Watters, K. H. (2005). Nutritional, physical and sensory characteristics of various chocolate-flavored peanut-soy beverage formulations. *Journal of Sensory Studies*, 20(2), 130-146.
8. Deloitte. (2013). Indian Consumer Market likely to be World’s Largest by 2030. *The Economic Times*.
9. Almena, A, Lopez-Quiroga, E, Fryer, P J, et al. (2019b). Towards the decentralisation of food manufacture: effect of scale production on economics, carbon footprint and energy demand. *Energy Procedia*, 161: 182–189.
10. Arellano, N. (2020). Norway denies seafood link to new COVID-19 infections in China. *Rastech Magazine* [Online]. <https://www.rastechmagazine.com/norway-denies-seafood-link-to-new-covid-19-infections-in-china/>. Accessed on Jul. 6, 2020.
11. Baldos, U L C, Hertel, T W. (2015). The role of international trade in managing food security risks from climate change. *Food Security*, 7: 275–290.
12. Barichello, R. (2020). The COVID-19 pandemic: anticipating its effects on Canada’s agricultural trade. *Canadian Journal of Agricultural Economics*, 68: 219–224.
13. Davison, L. (2019). The temporary liquidity guarantee program: a systemwide systemic risk exception. *Journal of Financial Crises*, 1: 1–39.
14. Awasthi & Kowjalgi (1998), “Growth of Entrepreneurship”, *Entrepreneurship & Small Business*, Rawat Publishing, Jaipur, Pp.76.
15. Kumar, Mukesh & Basu, Partha (2008), “Perspectives of Productivity growth in Indian Food Industry: A Data envelopment analysis”, *Int. Journal of Productivity and Performance Management*, Vol. 57, No. 07, Pp. 503-522.