REDEFINING CHANNEL DIMENSIONING IN FMCG INDUSTRY: A TECHNOLOGICAL PERSPECTIVE

Dr. Jyotika James[1], Nishant Shrivastava[2],
Asso. Prof.[1], Asso. Prof. & Head[2], Sagar Institute of Science & Technology, Gandhi Nagar, Bhopal,
E-mail: jyotika_james@yahoo.co.in[1], prof.nishantshrivastava@gmail.com[2]

Abstract:

In recent years, the Fast-Moving Consumer Goods (FMCG) sector has experienced remarkable growth. Extensive and intricate distribution networks remain a characteristic of the FMCG sector. With the introduction of technologies like artificial intelligence, big data analytics, and the Internet of Things, channel dimensioning in the FMCG sector has undergone significant transformation. This study examines how channel dimensioning in the FMCG sector is changing as a result of technology breakthroughs. The study, which is based on secondary data, examines the tools and approaches used by top companies, analyses the measurable effects of these innovations, and examines any difficulties that may have arisen. The potential transformation of AI-based demand forecasting, IoT-based tracking, and data analytics in supply chain optimisation for cost reduction and customer happiness were among the main conclusions. The article concludes with practical advice and views on using technology to solve inefficiencies and prepare distribution networks for the future.

Key Words: Channel Dimensioning, FMCG Sector, Digitalization, Technological advancement.

Introduction:

Products in the Fast- Moving Consumer Goods assiduity are defined by quick manufacturing, delivery, creation, and consumption. These products are part of the request for toothpaste, toiletries, cleansers, electronics, cosmetics, packaged foods, beverages, and other everyday particulars. With low functional charges, a straightforward manufacturing and distribution process, little capital investment, and lower nonsupervisory restrictions, it enjoys wide fashion-ability. The sector is divided into three main orders healthcare 31%, food and beverages 19%, and particular care and housekeeping 50%. The rural market makes up a sizeable 35% of distribution networks, whilst the urban market produces roughly 65% of revenues.
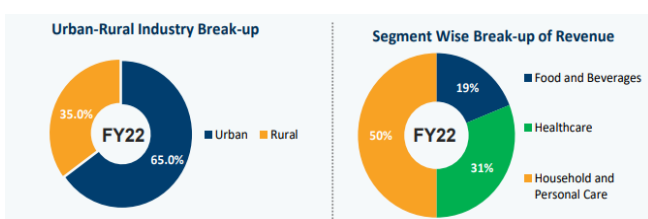

Figure 1: FMCG Market Segment & Market Share

Due to the transition towards a consumption-oriented society and an increase in disposable income, India's FMCG industry has experienced enormous growth in recent years. The growth of products customized to specific age groups and genders, the expansion of wellness-focused items, and the diversification of both food and non-food categories are the main forces behind this shift. The Indian FMCG market was valued at approximately USD 167 billion in 2023 and is expected to reach USD 615.87 billion by 2027.
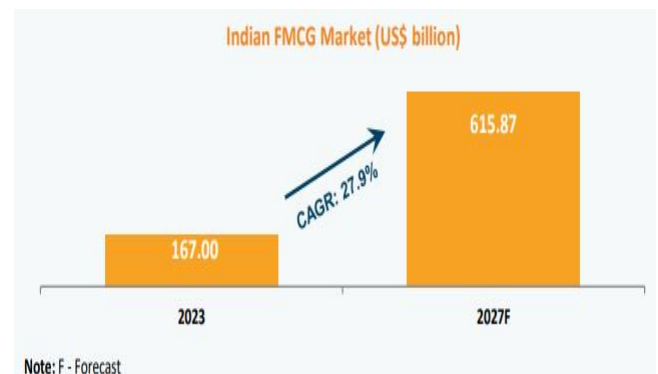

Figure 2: FMCG Market Size

In FMCG distribution networks, technology has emerged as a key enabler that improves distributors' responsiveness and efficiency in meeting changing customer needs. Technological integration optimises the supply chain for accuracy and speed while guaranteeing on-time product delivery from producers to final customers. FMCG businesses throughout the world are embracing technology to rethink their distribution plans, concentrating on conquering obstacles and seizing emerging trends in order to attain operational efficiency and profitability. These tactics are also intended to satisfy customer demands for individualized and easy purchasing experiences while adjusting to the growing dominance of e-commerce platforms.

Rapid changes in Indian consumption habits are being associated with a change in consumer attitudes. Online shopping has changed from being a forced activity to one that encourages experimentation and exploration, with consumers now more inclined to explore new products before making a purchase. FMCG companies have reviewed their product

portfolios and marketing tactics as a result of this shift in behaviour. Online sales channels are now much more efficient because to technological advancements like demand forecasting algorithms, digitalized supply chains, and quicker order fulfilment.

Sound distribution channels that ensure product availability, affordability, and accessibility have long been a cornerstone of the FMCG sector. The use of artificial intelligence, data analytics, and digital technology is causing this to change. Businesses benefit from these advancements by increasing customer satisfaction and streamlining supply chains and logistics. In order to help FMCG companies stay competitive in the rapidly evolving market, this paper focusses on how these advancements are transforming the way that products are now distributed.

Objective of the Study:

- To identify the platforms and technological tools that are presently being used in the FMCG business for channel dimensioning.
- To study the ways these technologies, affect distribution networks' effectiveness.
- To probe the openings and difficulties related to applying technology to channel dimensioning.
- To offer practical advice to FMCG businesses aiming to use technology to ameliorate their distribution networks.

Research Methodology:

This research is based exclusively on secondary data sources. Data was collected from academic journals, industry reports, and reliable online publications. A descriptive analytical approach was employed to interpret the data, focusing on technological trends and their impact on channel dimensioning in the FMCG industry. Some key sources of the research include peer-reviewed articles on supply chain and logistics in FMCG, Industry reports from McKinsey & Company and Deloitte etc.

Current Trends in Dimensioning in the FMCG Industry:

Due to shifting consumer behaviour and technological advancements, the Fast-Moving Consumer Goods (FMCG) sector is seeing quick changes in its channel structure. Below is a more thorough examination of the recent advancements impacting channel dimensioning:

1. *E-commerce and Omnichannel Distribution:* By disrupting traditional retail channels, e-commerce platforms have allowed companies to interact directly with consumers through Direct-to-Consumer (D2C) models. By cutting out the intermediary, this change allows businesses more control over pricing, customer service, and brand experience. Organizations are now combining digital and physical channels to try to build smooth omnichannel ecosystems and make it simple for consumers to move between online and offline touchpoints. For example, click-and-collect options, online recommendations based on browsing data in-store, and in-store refunds for online purchases are becoming more and more prevalent.

2. *Data – Driven Decision Making:* The use of big data analytics in FMCG firms' channel strategy is being revolutionised. Using cutting-edge tools, businesses can: 1. Anticipate patterns in demand to help prevent overstocking or understocking. 2. Segment markets precisely based on certain geographies or demographics. 3. To improve the effectiveness of the supply chain, optimise inventory management. Companies can swiftly adjust to shifting consumer preferences, seasonal trends, and market upheavals thanks to this information.

3. *Artificial Intelligence and Automation (AI):* Channel management's operational core is being revolutionised by automation and artificial intelligence.

4. *AI-Powered Route Optimisation:* Algorithms use the most effective routes to minimise delivery times and transportation expenses.

5. *Warehouse Robotics:* Automated systems provide a labor-efficient and error-free method of sorting, picking, and packing goods.

6. *Smart Inventory Systems:* AI monitors stock levels in real time and ensures timely replenishment, reducing waste.

Lead times are reduced, supply chain resilience is increased, and operational efficiency is increased by these technologies.

7. *Innovations in Last-Mile Transportation:* As last-mile delivery becomes a crucial differentiator in channel success, businesses are looking for creative ways to satisfy growing customer demands:
    a) Drones: Offer quick, contactless delivery choices in both urban and rural locations.
    b) Electric vehicles (EVs): Provide environmentally friendly substitutes to cut delivery expenses and carbon footprints.
    c) Crowd-Sourced Delivery Models: For adaptable, scalable delivery networks, use independent contractors or gig workers.

Impact of Technology on Channel Dimensioning:

Distribution routes in the FMCG sector are becoming more flexible, responsive, and customer-focused due to the incorporation of cutting-edge technologies. An extended examination of the major domains where technology is having a noteworthy influence can be found below:

8. *Enhanced Forecasting Accuracy:* Machine learning (ML) algorithms are transforming demand forecasting by allowing businesses to anticipate customer wants with previously unheard-of accuracy. Thus, this leads to:

a) Decreased Stockouts: Companies can prevent lost sales opportunities by effectively forecasting product demand and making sure shelves are regularly replenished.

b) Reduced Overstocking: Accurate forecasting promotes optimal inventory levels, which lower waste and carrying costs.

c) Adaptability to Trends: To predict demand peaks or troughs, sophisticated algorithms examine past data as well as outside factors like weather patterns, vacations, and market trends.

This attribute enables businesses to manage inventory and production more effectively, which lowers costs and raises customer satisfaction.

9. *Dynamic Pricing Models:* Real-time data analytics is enabling dynamic pricing strategies, in which prices are adjusted in response to market conditions, rival pricing, and demand. The principal advantages consist of:

a) Matching Customer Demand: In situations where there is little demand or intense competition, prices might be adjusted to draw in customers.

b) Competitive Advantage: Businesses maintain their sensitivity to the market by reacting quickly to any pricing adjustments made by rivals.

c) Revenue Maximisation: Businesses can capitalise on periods of high demand without alienating price-conscious clients thanks to dynamic pricing. Dynamic pricing is an essential strategy for managing competitive and erratic markets because of its adaptability.

10. *Supply Chain Transparency:* By offering an unchangeable and traceable record of transactions, blockchain technology is transforming the supply chain's transparency and trust. Important advantages include:

a) Enhanced Visibility: By tracking products in real-time, businesses can keep an eye on the entire supply chain, which holds people responsible and boosts productivity.

b) Trust and Authenticity: By confirming provenance and guaranteeing authenticity, blockchain helps stop counterfeiting.

c) Regulatory Compliance: Blockchain's traceability and streamlined paperwork make it simpler to adhere to moral and legal requirements.

Blockchain strengthens connections with stakeholders, like as suppliers, customers, and government agencies, by increasing supply chain transparency.

11. *Customer Centric Models:* Designing extremely customer-centric channel strategies is becoming possible for FMCG firms thanks to the development of AI-powered personalization engines. These motors enable: AI will analyse each customer's unique behaviour, tastes, and past purchases to make recommendations for things that are most likely to appeal to them.

a) Personalised Promotions: Businesses can cater to particular client categories by providing bundled offers, loyalty benefits, or customised discounts.

b) Delivery Options That Are Flexible: AI improves customer happiness and retention by optimising

delivery schedules depending on consumer convenience.

In an increasingly competitive industry, these customer-centric models are crucial for building distinctive value propositions and cultivating loyalty.

Issues and Remedies in the Adoption of Technology

Technology integration offers a distinct set of advantages as well as problems as we traverse the rapidly changing FMCG distribution landscape. Among these, the loss of jobs to automation is a major factor, leading to a growing skills gap as the FMCG industry's need for programming, maintenance, and marketing positions increases. Additionally, FMCG distributors face many challenges, especially smaller ones that do not have the funds for such endeavours. These challenges include the high costs of technology implementation, reluctance to change, and the difficulties of integrating new systems.

To overcome these obstacles, a diversified strategy is required:

1. *Efficiency and Cost Management:* Budgeting for the implementation of technology and taking into consideration the long-term benefits will help to lessen the financial strain. A more effortless transition is guaranteed when cost-effective alternatives are sought and the integration process is divided into smaller, more manageable jobs.

2. *Education and Training:* Clearly communicating the advantages of change and incorporating employees in decision-making procedures are essential for overcoming resistance to change. Bridging the skills gap can be achieved by hiring or increasing technical knowledge within the team and by providing suitable training.

3. *Safety and Observance:* To address security concerns, strong data protection mechanisms should be put in place, and data usage should be transparent. Interoperability problems can be fixed by compatibility tests and comprehensive testing, and careful selection and implementation procedures guarantee regulatory compliance.

Conclusions:

The biggest shift in how businesses manage their supply chains, become more efficient, and guarantee that they give their consumers exceptional service is the introduction of technology into FMCG channel dimensioning. The findings of this study demonstrate that, in the face of digital disruption, data-driven decision-making, and high market agility, old methods of channel dimensioning are swiftly disappearing.

Through a thorough examination of the effects of technology, this article describes how tools like blockchain, IoT, AI, and machine learning are redefining the channel's parameters. Predictive analytics, transparency, and real-time

performance tracking are all made possible by these technologies, which empower FMCG companies to cut expenses, address inefficiencies, and react quickly to market demands.

Through the use of technology, channel dimensioning in the FMCG industry has thus changed from being discretionary to being necessary for competitiveness and long-term growth. Businesses that embrace this shift will have a better chance of reaping the benefits of enhanced customer experiences, data-driven insight, and channel performance. Future research could improve this much required field of study by taking into account emerging technology changes and their shifting effects on channel dimensioning.

Acknowledgement

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Biographies

Dr. Jyotika James received the B.B.A degree in Marketing Management from Devi Ahiliya Vishwavidhalya of Indore, (M.P.) in the year 2007, the MBA degree in Finance from Barkatullah University of Bhopal (M.P.) in 2010 and the Ph.D. degree in Finance from Barkatullah University of Bhopal (M.P.) in 2024 respectively. Currently She is an assistant professor of Finance at Sagar Institute of Science & Technology, Bhopal (M.P.). Her teaching and research areas includes finance, banking and general management.

Mr. Nishant Shrivastava received the B.Com. degree in Accounting from Hari Singh Gour Vishwavidhaya of Sagar, (M.P.) in the year 1999, the MBA degree in Marketing from Devi Ahiliya Vishwavidhalya of Indore, (M.P.) in the year 2002 respectively. Post Graduate Certificate in Senior Leadership from XLRI Jamshedpur (J.H.) . 21 years of corporate experience in established and start up brands .Currently he is an associate professor & Head of Department (MBA) of Marketing at Sagar Institute of Science & Technology, Bhopal (M.P.). His teaching and research areas includes marketing, sales, and cannibalization.