

IBM NAALAIYATHIRAN PROJECT

TECHNOLOGY: DATA ANALYTICS

DOMAIN: RETAILS AND E-COMMERCE

**TITLE: RETAIL STORE STOCK INVENTORY
ANALYSIS**

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ABSTRACT:

As retail market becomes extensively competitive, the ability to optimize on serving business processes while satisfying customer expectations has never been more important. Therefore, managing and channelizing data to work towards customer delight as well as generate healthy profits is crucial to survive prosperously. In the case of big retail players internationally as well as in India, data or rather big data analytics is now being applied at every stage of the retail process - tracking emerging popular products, forecasting sales and future demand through predictive simulation, optimising product placements and offers via customer heat-mapping and many more. Alongside this, identifying the customers likely to be interested in particular product types based on their previous purchase behaviours, working out the best way to approach them through targeted marketing efforts and finally working out what to sell them next is what forms the core of data analytics. This article is the outcome of a descriptive research on the past, present and future of retail industry and the application of business analytics in shaping appropriate marketing strategies.

INTRODUCTION:

INDIAN RETAIL INDUSTRY:

Backed by robust economic growth and rising household incomes, consumer spending in India is expected to touch \$3.6 trillion (about Rs.240 trillion) by 2020, increasing India's share in global consumption to 5.8%—more than twice its current levels. By 2020, India's retail sector is expected to double to \$1.1-1.2 trillion from \$630 billion in 2015 at a compound annual growth rate (CAGR) of 12%, says a joint report titled "Shaping Consumer Trends" released by FICCI (Federation of Indian Chambers of Commerce and Industry) and consultancy Price water house Coopers. The report's projections indicate that the average household income in India will triple to \$18,500 in 2020, from \$6,400 in 2010—acting as a major driver in retail growth and leading to evolution of new consumer segments. Customers are getting more sophisticated, driving firms to focus on premium products, the report said.

5 BENEFITS OF INVENTORY MANAGEMENT



Increasing disposable income levels and a rising number of sophisticated consumers have given rise to consumers seeking 'premium' products. According to IMRB's Kantar World panel report published in 2013, nearly 50% of the total number of new launches in the personal care category has been in the premium segment. The report highlights that the growth in the retail sector will be fuelled by both organized brick-and-mortar stores and e-commerce. India's overall retail opportunity is substantial and a strong growth in e-commerce is expected due to a demographic dividend (young population, rising standards of living and upwardly mobile middle-class) and rising internet penetration. About 32.18 crore people, accounting for about 25.4% of total population, are using Internet in India, according to digital information and research company eMarketer. The report also noted a shift in the focus of e-commerce players, towards their own private labels. The report said that private labels account for 10-30% of the total revenues of the e-commerce companies. In 2015, online grocery platform BigBasket (Supermarket Grocery Supplies Pvt Ltd), which sells fruit, vegetables, meat, pulses and spices under its own brand, generated 35% of its revenues from private labels. According to the report, the e-commerce market is expected to reach \$125 billion in terms of gross merchandise value (GMV) by 2020, growing at the rate of 31%. GMV is the total value of goods sold over a period of time, without accounting for discounts or sales returns. The report further says that the packaged consumer goods sector will cross the \$100-billion mark

by 2020, growing at a rate of 18%. Rapid macroeconomic, demographic and lifestyle shifts in the country clearly point towards exponential growth in the packaged goods industry. These shifts, bolstered by policy and regulatory changes have a strong potential of taking India towards its goal of becoming largest consumer market over the next decade. According to the report, the maximum consumer spending is likely to occur in food, household, transport and communication segments. Industry leaders are of the opinion that with a lot of investment initiatives and GST (goods and services tax) which came into effect from July, 2017, there is a great opportunity in food processing.

COMPONENTS OF RETAIL STORE STOCK INVENTORY ANALYTICS:

According to a new report titled, “Driving Retail store stock inventory Growth by Leveraging Analytics” by consulting firm Pricewaterhouse Coopers (PwC) and the Retailers Association of India (RAI), a successful retail analytics strategy, will cover the following six areas:

- 1 Predictive modelling:** Developing an analytical model to predict future outcomes and empower business users to take decisions quickly.
- 2 Big data and hybrid architectures:** Convergence of structured and unstructured data through data integration across apps, sensors, social media and other channels.
- 3 Cloud analytics:** Highly scalable and easy way to store and access relevant information, which allows users to access more data faster.
- 4 Advanced visualizations:** Present data in visually compelling ways, enabling companies to expand business intelligence capabilities extended to their executives and other employees.
- 5 Self-service analytics:** Making analytics a more democratic process by allowing users to make decisions based on their own queries without requiring any sophistication.
- 6 Real-time in-memory:** A move ahead of the traditional relational database that can help retail analysts to generate deeper insights across the entire value chain of retail operations, including procurement, supply chain, sales and marketing, store operations, and customer management

CHALLENGES IN RETAIL STORE INVENTORY ANALYTICS:

Retailers have already started putting data analytics at the heart of their operations across the value chain - procurement, supply chain, sales and marketing, store operations, and customer management. However, they now need to establish a big data ecosystem, which processes multiple terabytes of new data and petabytes of historical data, which will help them improve their revenues via analytics-based decision-making. While this may sound really exciting, big data management and analysis comes with its own set of challenges. Several issues will have to be kept in mind to optimize the full capabilities of big data. Privacy, security, intellectual property, and even liability policies need to be stringent in terms of big data. Since big data encapsulates high end analytics, specially trained professionals need to be added to the team to utilize and functionalize the big data. Companies need to integrate information from multiple data sources, often from third parties, as well as deploy an efficient data to aid such an environment. Many times companies fall in short-sightedness, failing to implement insights from analytics. However, this could be fixed by continuous alterations of retail styles where a certain team is allotted for task of arrangement of insights and their implementation.

CONCLUSION:

Retailing store stock analysis is at the platform for more data-driven disruption because the quality of data available from internet purchases, social-network conversations, and recently, location-specific smart phone interactions have emerged into a new entity for digital based transactions. Improved performance, better risk management, and the ability to unearth insights that would otherwise remain hidden, are the benefits organisations reap through utilization of big data management. Retailers can benefit immensely from a structured analytics-driven approach that will help them understand how their customers are using their products and services, how their operations and supply chain are performing, how to manage their workforce and how to identify key risks - insights that they then can then act upon. The pace and the dexterity with which micro data is collected, gives the retailers immediate insights on the shopping trends. This analysis on the move allows them to adjust their prices and add to the lure by announcing on the spot discounts on the sales

floor based on their current and previous shopping patterns. This data, often collected through interactive mobile devices in stores, provides the retailer an understanding of the buyers needs and give insights into making smarter decisions about product placement in the store. Data capture and analytics usage certainly have come a long way in the last ten years, and it is interesting to look back on how trends in data analytics have affected the marketplace. As the Internet of Things expands further and our world becomes even more connected, this space will continue to evolve.