A Research Framework for Business Analytics in the Indian Retail Industry

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ABSTRACT:
As the retail industry becomes more competitive, the ability to optimise servicing company procedures while satisfying consumer expectations has never been more important. As a result, in order to grow, maintaining and channelling data in order to work toward client delight while also creating healthy revenues is vital. Customer's heat-mapping enables businesses to adjust product positioning and offers based on their customers' preferences. Data analytics is used to identify clients who are likely to be interested in various product types, and the best approach to reach them is decided through focused marketing efforts.

I.   INTRODUCTION:

1.1 India's retail industry adopts business analytics.

During the last decade, the combined influence of shifting demographics, greater disposable incomes, rising consumer desires, and ongoing urbanisation has resulted in a wave of quantitative and qualitative changes in the Indian retail sector's notion of shopping and shopper buying behaviour.Furthermore, substantial changes in consumer lives, as well as the accompanying changes in consuming habits and purchasing patterns, have dramatically altered traditional retail business models in order to meet the expectations of distinct consumers seeking unique experiences.In order to match dynamic and changing customer expectations and demands, retailers must understand multi-channel purchase behaviour of today's shoppers.As a result, businesses must grow, expand, and provide them with new products and services.In this globalised economic era, retail managers should prioritise understanding shifting consumer demands and expectations, as well as ensuring customer retention.In addition, the Indian retail industry is being propelled by a new, dynamic, global revolution, which increases the industry's total competitiveness.As a result of the growing inter-format1and intra-format2competition in the retail business, merchants are under pressure to become more customer-centric and provide a differentiated seamless shopping experience.Merchants must enhance their understanding of their consumers' expectations and preferences, as well as their supply of services, merchandise, and promotions that satisfy these evolving demands and wants of discriminating customers, in order to achieve this.Fundamental changes in customer behaviour, increasingly competitive industries, and a plethora of digital technology advancements, mobile inventions, and social media proliferation are all causing problems for many businesses.More retailers are attempting to use big data5retail analytics6to analyse vast amounts of data in order to detect purchasing patterns, improve customer satisfaction, predict future trends, select promotional techniques, and increase revenue.In terms of enticing customers, finding important customer categories, and analysing client claim profiles, retail analytics has shown to be a game changer in a variety of ways."Big Data is the next generation of data warehousing and business analytics, and it is poised to assist enterprises in generating top-line revenue at a low cost."Database data, social network data streams, and a plethora of understandable and intangible signals generated by digital equipment distributed globally are all included. Big Data is defined as selecting important datasets from a large amount of data, translating them into easily digestible models, and then extracting valuable insights for business strategy formulation. These discoveries can be applied to marketing, sales, research, operations, and customer service. Retail clients can use Big Data in addition to CRM to better evaluate data from other sources such as AdWords/AdSense analytics and inventory management systems. Industries can increase channel sales by monitoring and regulating product distribution across several channels using real-time restocking and price modifications. This gives up new opportunities for data in the retail industry. They may improve sales projections, devise targeted promotions, and gratify customers by utilizing social media data streams. India's consumer expenditure is expected to treble to $3.6 trillion by 2020. (about Rs.240 trillion). According to FICCI and Price Waterhouse Coopers report, India's retail sector would quadruple in size by 2020, from $630 billion in 2015. This equates to a 12 percent CAGR (CAGR). According to the study, India's average household income will triple to $18,500 by 2020, up from $6,400 in 2010. Companies are focusing on luxury items as a result of customer sophistication.As disposable income levels have climbed and the number of sophisticated customers has increased, consumers' demand for

"premium" products has increased.In 2013, the premium market accounted for more than half of all new personal care product launches.Over 32.18 crore people in India utilise the Internet, amounting for about 25.4 percent of the overall population, according to digital information and research firm e Marketer.E-commerce companies are increasingly focusing on their own private brands, according to the report.According to the survey, private labels account for 10-30% of overall revenue for e-commerce businesses."In 2015, Big Basket (Supermarket Grocery Supplies Pvt Ltd), an online grocery platform that sells fruit, vegetables, meat, pulses, and spices under its own brand, made up 35% of its revenue.According to the estimate, the e-commerce market will reach $125 billion in gross merchandise value (GMV) by 2020, growing at a rate of 31%.The total value of things sold over a period of time, excluding discounts and returns, is referred to as GMV (gross merchandise value)." Analytics is crucial for marketers when it comes to achieving the goal of customer understanding.In the developing Internet of Things (IoT) environment, mobile devices play a vital role, and businesses will rely on analytics to collect the valuable data they provide.Businesses may learn a lot about how customers engage with brands on their devices once they have agreed to "opt in.""What, for instance, are they most interested in learning about and purchasing?What is the average purchasing frequency, and are there any patterns emerging?"Retailers may be able to make better judgments with the help of analytics.Analytics is crucial for marketers when it comes to achieving the goal of customer understanding.In the developing Internet of Things (IoT) environment, mobile devices play a vital role, and businesses will rely on analytics to collect the valuable data they provide.Businesses may learn a lot about how customers engage with brands on their devices once they have agreed to "opt in. "What, for instance, are they most interested in learning about and purchasing? What is the average purchasing frequency, and are there any patterns emerging? If a buyer buys the same box of baby diapers every two weeks, for example, they would appreciate a purchase reminder, sales notifications, or an automated purchase renewal option. Retailers may use analytics to identify these patterns and adjust their services to better serve their clients, enhancing the convenience, personalisation, and commerce of mobile shopping. Retail data is becoming more valuable, diverse, and fast, demanding an upgrade in industry goods to stay up with changing consumer expectations. However, times are changing, and long-term business planning is becoming obsolete. With technology penetrating every part of the industry, it's either transform or perish.Traditional retail businesses have little choice but to embrace change and execute a plethora of reforms in order to attract, retain, and grow their consumer base. The industry is under pressure to scale up data collection, analytics, and application because customer awareness is at the centre of every business strategy. According to a McKinsey study, merchants who use big data analytics can increase their operating profits by up to 60%.The retail industry's severe competition has made it extremely tough to comprehend and gain clients. The problem isn't a lack of data on people and their buying habits, but rather a lack of data in large quantities. The most difficult stage in making informed business decisions is comprehending data from various sources. Despite the abundance of data analysis and reporting tools available, data may not provide useful decision-making insights unless properly understood and connected to organizational goals.

1.2 Objectives of the Study
The study's goals are to:
1) To study the current state of the Indian retail business.
2) To investigate the role of business analytics in the Indian retail industry.
3) To research and define business analytics metrics in the Indian retail industry.
4) To identify the impediments to the adoption of business analytics in India's retail industry.

1.3 Hypothesis of the Study
Since it's an exploratory and explanatory study, the following hypotheses to address the research issues have been written in null form.
H10: There are no disparities across retail organisations when it comes to defining business analytics.
H1a: The term "business analytics" has a wide range of meanings in the retail industry.
H20: All retail businesses have the same ambitions when it comes to business analytics.
H2a: The objectives of business analytics differed widely amongst retailers.
H30: When it comes to the challenges of employing business analytics, retail companies are unanimous.
H3a: Retailers have a variety of views on the challenges of integrating business analytics.

1.4 Research Questions
RQ1. In Indian retail, what is the definition of data analytics?Is there a distinction in how retailers define business analytics?
RQ2: What are the most important metrics in business analytics?Is there a link between critical business analytics traits and retail businesses?
RQ3: When making managerial choices, do merchants consider business analytics?

RQ4. Are there differences of opinion about the aims of data analytics in business activities across retail organisations?

RQ5.What are the most important barriers to developing and utilising business analytics in the retail industry? What are the differences in the adoption and deployment of big data analytics in retail?

RQ6: What are the biggest benefits of business analytics for retailers?

II.   LITERATURE REVIEW

Data analytics is a relatively young field that has piqued the interest of academics and practitioners alike.Several companies, including Ebay, LinkedIn, and Facebook, have been collecting massive amounts of data since the mid-2000s (Davenport, 2013).The volume (volume), diversity (structured, semi-structured, and unstructured), and rate of change (structured, semi-structured, and unstructured) of data are all large (velocity).In commercial decision-making, data has ushered in a paradigm shift.Businesses commonly analyse internal data such as sales, shipping, and inventories.They're now analysing external data to gain new insights into customers, markets, supply networks, and operations: the "outside-in view."Big data is generating a lot of buzz all over the world.According to statistics, about 90% of the data on the globe was created in the last two years.The information a firm obtains about its customers is one of its most important assets.It also allows businesses to identify key customers, foresee future trends, and make proactive, well-informed decisions.Within this huge amount of data, there is a plethora of information that might have a significant impact on how any corporation conducts business and interacts with existing and future customers, as well as give them a competitive advantage over their competitors (Ahmed, 2004).Because of the rapid growth of data definitions, there is considerable ambiguity (Gandomi and Haider, 2015).Data is commonly defined as a collection of large, complex datasets that are difficult to gather, store, manage, and analyse efficiently using current database management software and methods ("Fan and Bifet, 2013; Kaisler et al., 2013").According to some academics (e.g., Fisher et al., 2012; Kwon et al., 2014; Russom, 2011), data analytics is a collection of analytic techniques and tools designed specifically to analyse data in order to inform decision-making.India's data analytics business is expected to grow eightfold to $16 billion by 2025, from its current $2 billion.In terms of big data analytics, India is currently ranked in the top 10 global marketplaces.As it hosts the fourth edition of its big data and analytics conference today, Nasscom has set a target of making India one of the top three markets in the next three years.The adoption of analytics solutions in this fast-growing Indian business is slower than in its western equivalents.Companies like Shoppers Stop, Croma Retail, and Baby oye are using analytics to improve customer experience and boost sales in India, albeit slowly.PwC, on the other hand, claims that while big data is the way of the future, retailer acceptance is now slow.Despite the fact that big data analytics is being employed in the retail industry, the rate of acceptance is still slow, given the volume of data created and potentially exploited.According to a new analysis titled "The Deciding Factor: Big Data & Decision Making," the majority of CEOs believe their companies are "data driven," but doubts abound.Despite the expanding potential of big data, only a few studies have been conducted in the Indian retailing context.A few key questions about big data retail business analytics and their outcomes must be addressed for this aim.These issues are relevant not only to academics, but also to retail practitioners who need solutions to help them execute the right strategies with greater precision and efficiency.Retailers have access to a variety of important customer data both online and offline ("e.g., Kayande et al. 2009; Van Bruggen and Wierenga 2000").For both retail practitioners and researchers, the extensive availability of retail data, whether at the customer level or not, has created immense promise as well as problems (Kumar and Reinartz2005; Verhoef et al., 2010).In a similar line, emerging interactive technologies are expected to dramatically impact the retail landscape through influencing retail strategy and operations (Yadav et al., 2010).Furthermore, certain emergent interactive technologies may be considered as facilitators (tools that assist merchants compete more effectively in the marketplace) by some, and disruptors by others.Retailers want to go beyond simply gathering customer preferences through data to get a competitive advantage by leveraging big data analytics ("Brown et al. 2016; Wang et al. 2016").With the expanding data tsunami, big data analytics may be leveraged by retailers to obtain a competitive advantage and revolutionise entire corporate operations (Zhong et al., 2015).In the age of big data, this can result in intangible benefits for businesses, such as greater customer loyalty and a positive store image, which can contribute to long-term competitive advantages.("Spiess et al., 2014; Yadav and Kumar, 2015").Using the large amount of data made available by developing technology, however, is tough (Chongwatpol, 2015).

III.   RESEARCH METHODOLOGY

Due to the limited amount of data available on data retail business analytics in the Indian retailing sector, this study will be conducted in two sections. Exploratory qualitative and quantitative research methods will be used in this project. The initial exploratory research was conducted through semi-structured, one-on-one interviews with twenty retail IT managers in order to gather quantitative and qualitative data that would help us figure out what inspires and hampers data analytics in retail. This exploratory data allows researchers to gain a deeper understanding of a concept and crystallise an issue / opportunity from a retailer's perspective than what is

available from literature and other survey approaches. As part of the quantitative research, a non-experimental survey will be conducted to investigate the impact of big data analytics on customer acquisition and retention tactics. Self-administered questionnaires will be used to obtain primary data from retail IT specialists in India from four retail sectors (food and groceries, fashion, consumer durables, and media/entertainment).Both descriptive statistical approaches (Mean, Standard Deviations, and cross tabulations) and multivariate techniques (exploratory factor analysis, analysis of variance, correlation, regression, and Chi-square tests) will be used to examine the hypotheses.

IV.   CONCLUSION

Traditional database management systems can't handle the power of data, retailers are learning. The retail industry requires solutions to help them acquire access to this discernible consumer and product data, analyse and play with customer behaviour trends, and ensure their continued relevance and survival in a highly competitive retail market. In order to enable real-time marketing decisions that provide significant commercial value, the system must be able to quickly receive and process this huge amount of data from various sources, as well as derive near-real-time insights and analytics. As a result, retailers must adopt and harness best practises in big data retail business analytics to gather, aggregate, process, and analyse such unstructured and structured data in order to develop customer-centric strategies that help them acquire and retain customers, as today's customers purchase products across multiple channels such as mobile and web, use real-time information through ratings, and use big data retail business analytics to gather, aggregate, process, and analyse such unstructured and structured data in order to develop customer-centric strategies that help them acquire and retain customers. Amazon, Alibaba, and eBay, for example, are employing advanced analytics to deliver unique online shopping experiences that are now affecting established retailers.Despite the fact that big data analytics is currently employed at every stage of the retail process, it has garnered little attention in India.

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