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Opportunities for Pricing Analytics for Developing Strategies in Online Retailing

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ABSTRACT

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The increasing competition among e retailers in India has given rise to the adoption of different pricing strategies. The online retailers face the challenge of attracting customers as only a chunk of customers are interested in making transactions online. There can be several ways in which marketing analytics can be employed to use e-commerce platforms for maximizing customer satisfaction through enhanced pricing efficiency. From dynamic pricing to value-based pricing to cost-plus pricing, the online retailers are using all possible pricing strategies for enhanced customer value ad experience. The paper employed the use of qualitative research and focused groups on understanding the pricing strategies. The Study found the various factors that impact the online pricing strategies and exploring marketing analytics being employed by online retailers for developing their pricing strategies. The paper greatly impacts the practitioners in the comprehension of extensive role the pricing analytics has for the development of pricing strategies.

Keywords : - Analytics, Pricing, Online Retailing, E Commerce

I. INTRODUCTION

Under the circumstances of COVID-19, industries such as tourism and traditional retail stores have suffered a hard blow from certain government restrictions and policies. Based on the latest report from IBM's U.S. retail index, the number of department stores and sales has gone through a significant decline by 25% in the first quarter of 2020, and it deteriorates to 75% in the second quarter (Perez, 2020). These numbers indicate that department stores are expected to decline continuously. However, the e-commerce business was planned to increase by approximately 20% in 2020, which is a significant year alone (Perez, 2020). Not coincidentally, as the industry tycoon in e-commerce, Amazon has become one of the world's largest companies during the COVID-19 pandemic

(Klebnikov, 2020). According to Klebnikov (2020), Amazon's market capitalization currently has gained $570 billion, and its stock has increased by more than 60% this year. Amazon's rapid growth directly reflected that more people have begun shopping online rather than going to physical shops. Digital shopping as the inexorable trend in the near future has accelerated its transition from physical shopping by five years (Perez, 2020). As stated by the WTO (2019) world trade statistical review, current trade statistics cannot quantify and represent the international trade level to digital transactions, because digitally ordered and digitally delivered goods or services are hardly being tracked. This evidence showsthat e-commerce is becoming the major trend of retailing. Based on Quellette's (2020) research, the global online shopping market scale is predicted to reach 4 trillion in 2020, and retailers will keep focusing on online businesses and expanding to the mobile shopping section. Since the pandemic is reshaping the world and people's lives, it is vital to realize what impact could be created by the e-commerce industry and online retailers. E-commerce, as the name indicates, means digitally embedded commercial transactions between and among organizations and individuals. "E-Commerce or Electronic Commerce means buying and selling of goods, products, or services over the internet" (Electronic Commerce, 2019). As the current era is the age of a digitally enabled social and commercial life, with the development of information technologies, it seems that e-commerce will eventually influence almost all commerce by 2050 (Laudon & Traver, 2007). Laudon and Traver (2007) mentioned that e-commerce had been categorized and characterized in different types such as Business-to-Consumer, Business-to-Business, Consumer-to-Consumer, Peer-to-Peer.

II. LITERATURE REVIEW

Microsoft's bundling of the software applications in the onsite retail space on a particular day, it is noticed 400+ combo offers from Snapdeal in the camera & accessories category. In contrast, PayTM has 200+ combo offers, and Amazon has 3000+ combo provides in the same category. Similarly, in the hair care category, significant variance in combo offers is observed across marketplaces. It has been noticed that marketplaces have a varied number of products sold in packs across different brands (2500 in Amazon, 800+ in PayTM, and 500 in Snapdeal on a specific day. Costs, namely search costs and transaction costs, determine other differences to traditional markets (Geyskens et al., 2002; Reynolds, 2002). Pricing strategy is an essential element of the digital marketing strategy (Singh, 2018). Patterns in the analysis emphasize the opportunities for differentiated pricing at a customer-product level, based on willingness to pay (McKinsey, 2014). Marketing analytics is the science of data that is employed to develop pricing strategies in online retailing. The Literature states that business firms differ in the elements of productivity, remuneration levels, and so on. Exporters evaluate the non-exporters on some of the features (Ranjan and Raychaudhari, 2011). The digitization has changed the business activities by offering multiple options. The change has fundamentally altered the landscape of marketing practices. Technology provides many versatile tools that firms can employ to cultivate and maintain their marketing practices, such as – customer touchpoints, relationships with customers, and empower the businesses to interact globally with customers.

This mega-trend is a new business norm not only in the developed world but also in emerging markets. For example, Facebook enables many small and medium companies to promote and communicate their products globally (Manyika and Lund, 2016), while Alibaba also facilitates the efforts of different value holders. Even life insurance indicates less price dispersion due to online price comparison sites (Brown and Goolsbee, 2002). Costs still are an essential ingredient for pricing. The Study of how the diffusion of an e-channel affected the geographic trading patterns and price dispersion of the wholesale (Overby and Forman, 2014). When a manufacturer tries to expand her market through two online channels, she meets the same questions in these traditional researches. One of the critical issues is to price simultaneously in two online channels. Information technology has increased efficiency, which in turn reduces transaction costs (Bakos 1998, Litan and Rivlin 2001). The Study had objective to examine the impact of pricing strategies as a promotional tool in the organized retail sector in India (Kumar, 2014). The manufacturer & company should consider the level of knowledge of the customers while deciding the price of the product. Customer knowledge would be highly-priced sensitive (Bareja and Sain, 2014). In a report titled 'Online Retail Forecast (2017-2022) the Asia Pacific', Forrester Research has found that Amazon India is now behind Flipkart by only 1% in GMV market share for 2017, in comparison to 5% in 2016. Homegrown e-commerce player Flipkart's standalone market share was 31.9%, while Amazon's was 31.1%, according to the research report. A wrong pricing policy could harm a firm's profit or even drive it to bankruptcy. Incorrect pricing causes deadweight loss. Deadweight loss denominates damage, which could have been avoided by proper allocation of resources, I .e. in this case, optimal pricing in both sales channels. The deadweight loss occurs, and a price lets some consumers forgo a purchase that would otherwise have taken place and thus lowers a firm's profit. Second, a price tool would bring many consumers, but ceteris paribus, due to low prices, the benefit would not be adequate. Therefore, optimal pricing strategies lead to maximizing profit in industries that sell similar products on the Internet and through traditional channels (e.g., Varian, 1995; Shapiro and Varian, 1999; Liebowitz, 2002; Skiera 2000). In general, the price is always an essential competitive issue in satisfying consumers (e.g., Wallace et al., 2004).

III. COSTS AND PRICING

E-commerce is the online transactions: selling goods and services on the Internet, either in one sale like Amazon or through an ongoing operation online (Frost and Strauss, 2013). The E-commerce firms include Amazon to Netflix and capture various types of data (orders, baskets, visits, users, referring links, keywords, catalogs browsing, and social data. They are divided into four types -transaction or business activity data, click-stream data, video data, and voice data. In eCommerce, data are the key to track consumer shopping behavior in personalized offers. They are collected over time using consumer browsing and transactional points. This section presents different types of big data along with their implications for ecommerce. Through an intelligent pricing policy accompanied by supportive investments in promotion and distribution, the firm attains the competitive advantages, which should result in higher sales and profit for a firm. In the online market, firms could adjust prices instantaneously, and these price changes are immediately registered to rivals along with customers, allowing opponents to respond to price cuts with their own. In the online market, costs, like search costs and transaction costs, decide the differences to traditional markets (Geyskens et al., 2002; Reynolds, 2002). Values are an essential ingredient for pricing. These costs directly influence consumers' reservation prices and their willingness to pay. Especially the digital media, where the search costs play a tremendous role. The Internet encourages competition and seems plausible (e.g., Alba et al., 1997). The price comparison sites quote consumers a detailed overview of offerings. Brynjolfsson and Smith (2000) state that due to lower supply costs, higher price competition, and therefore the removal of natural monopolies and prices decrease online. The studies indicate that prices are distinctively lower in the online channel than in the offline channel. The digital information goods have reduced costs in online media since they contain no extra new feature, and price competition may be enforced (Ancarani and Shankar, 2004). The price is the principal attribute to attract consumers to an online shop (Reibstein, 2002). Online trading promises the potentials of an entry barrier, easy access to information, and low transaction costs. These features of online trading imply that the growth of e-commerce has the potential of realizing often stated economic ideals for a genuinely competitive market- low search costs, intense price reactions, low margins, and weak market power. Such benefits might provide significant welfare benefits to consumers.

More recent studies explained why price dispersion continues to exist in online shopping, focusing on seller characteristics (Ratchford, and Shankar, 2003). Increased access to the Internet allows Consumers to obtain price quotes for a specific product from literally hundreds of sellers, have significantly reduced search costs for a large number of consumers. The prices get associated across products and over time. The sellers with low prices generally charge flat rates for all items within a given product category. Small price sellers in one time period are among the short price sellers in the future. The dominating prices across products and over time may further reduce search costs for consumers who shop online. Davis and Hamilton (2004) deliver four suggestions: menu costs, information-processing lags, customer acceptance, and diplomatic identification of opposite responses. The fifth cost of market conditions is added and computing the best answers to these, leading to periods of inattention.

IV. DATA ANALYSIS

Marketing analytics enables online retail businesses to enhance pricing models. The online retail market is quite competitive. It is essential to say that online stores must offer the best prices to ensure sales. Pricing products in online retail are necessary to ensure the success of a brand. Online businesses must always be alert to monitor the pricing of the products in their stores. The online stores can predict trends in product prices, taking advantage of festivals or periods of high visitor traffic on their virtual store. With the use of pricing analytics, online retail businesses can create enhanced product pricing models, determining the optimum prices to maximize conversions effectively. Marketing analytics capabilities in a robust analytics solution analyze historical data for various products and customer responses towards past pricing trends and evaluate competitor pricing in building suitable pricing models for online retail businesses. Pricing analytics can also help an online business decide the optimum prices for its products through useful analysis of customer sentiments related to pricing. The online retailers gain valuable insights about the highest price their customers are prepared to pay for any product.

Table 1: Retailers Title

Retailer	Designation
Myntra	**Manager**
	Head
Flipkart	**Manager**
	Head
Amazon	**Manager**
	Head
eBay	**Manager**
	Head

Table 2: Online Retailers responses

City	Retailers	Responses
Ghaziabad		Online analytics helps in tracking the price wise navigation of shoppers in e-commerce sites. Also helps in analyzing the profitability of price point
Agra		Supports the profitability of price point and thereby the pricing strategies. Use of analytics helps in making competitive strategies
Kanpur		Predictive analytics in pricing analytics support in predicting the right price of the products and the pricing strategies are also determined
Lucknow	Myntra, Amazon, Flipkart,Ebay	The descriptive analytics and prescriptive analytics help in setting the prices online and pricing strategies

The responses of the authority (Table2) amongst the four retailers led to further interpretations Opportunities for Pricing Analytics in developing Pricing Strategies Online retailers are making focused efforts to improve product recommendation capabilities on their e-commerce platforms. By harnessing the potential of pricing analytics viz. predictive, descriptive, and prescriptive analytics, online retailers can gain deep insights about individual customers. The initiatives help them to offer targeted product recommendations based on analysis of past shopping history, store browsing patterns, and popular products or items within a specific price range.

Figure 1: Word Cloud

V. FINDINGS

The Study indicates that online retailers benefit greatly by pricing analytics. The analytics enable the online retailing predictions and perform better in terms of the pricing. The strategies like price determination, price navigation, price tracking, and competitive pricing lead to uplift online retailing. Pricing of the products in online retail is necessary for the success of a brand. The descriptive component in pricing analytics helps to explore the past trends of pricing and determine the right price, the predictive analytics look for the proper price for future. Prescriptive pricing analytics provide the diagnostic measure for pricing. Online businesses must always be alert to monitor the pricing of the products in their stores. The online stores must predict trends in product prices, taking advantage of festivals or periods of high visitor traffic on their virtual store. The figure 2 indicates the role of analytics in tracking, navigation, predicting, analyzing the profitability of prices. The pricing analytics is also one of the components of online strategies for online retailers.

The Impact of Frequent Price Change

H1: Frequent price changes decrease the consumers' perception of fairness. H7: Frequent price changes have a negative influence on consumer loyalty. To find out how dynamic pricing directly influences the consumer's perception of fairness, the univariate analysis of variance (ANCOVA) test was run for the analysis because the ANCOVA test is often used when there are differences between experimental groups. Thence, the composite score of fairness was added as the dependent variable, and the dispositional trust level was also added as a covariate because dispositional trust could be the factor that influences fairness. Correspondingly, the recoded experiment groups were set as a fixed factor. From the analysis, it was apparent that two different experimental groups have a significant effect on the dependent variable fairness. The significant p-value for the control group indicates that participants in the group without frequent price changes had a higher perception of loyalty.

Consumers Trust and Perception of Fairness

H2: Consumers' perception of fairness has a positive influence on trust towards online retailer. The conceptual research framework of this thesis suggests that consumers' perception of fairness could serve as an antecedent that influences consumers' trust towards online retailer. To justify the correlation between perception of fairness and trust towards online retailer, the author has created a scatterplot (see Figure 2). Hence, a linear regression analysis was chosen to further analyze the postulated impact of fairness.

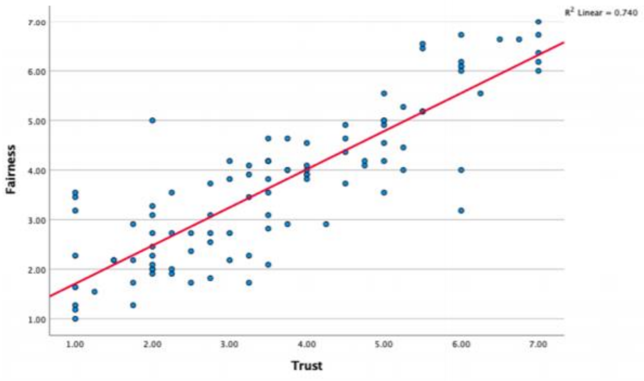

Figure 2: Consumer Trust Fairness Relationship Scatterplot

VI. CONCLUSION

To be more specific, firstly, online retailers need to master the commonly used dynamic pricing strategies, so they could fast react to the market demand or competitor’s tactics. Simultaneously, online retailers shall also be able to acquire comprehensive information from the potential price influencing factors, thereby adjusting the price correspondingly. It is suggested to price the products flexibly by considering the time scale, competitor's price, organization goals, the elasticity of the market demand, even weather situation. Nevertheless, as mentioned in the literature, with the help of big data analysis and machine learning, all those influencing factors and consumer purchasing behaviors will be integrated and analyzed systematically to tackle the target consumer segment accurately. Secondly, according to this thesis's results, it is not advocated for online retailers to adjust the price frequently. Especially when the final price is higher than the original price, consumers will perceive the price as unfair and the online retailer as untrustworthy. Moreover, the following consequence will reflect a decrease in consumer's online purchase satisfaction and repurchase intention. More seriously, these could lead to consumer churn and other losses.

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