

Research Article

A Study on the Impact of Online Platforms on the Sales and Distribution of Textiles and Apparel in Bengaluru.

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Abstract: *Purpose of the study:* This study primarily aims to thoroughly examine how digital platforms have drastically shifted the sales and distribution frameworks in the textile and apparel industry situated in the bustling city of Bengaluru. This investigation also intends to painstakingly differentiate and appraise the key factors that greatly influence consumer behavior concerning the surging popularity of online shopping, while systematically evaluating the important effects that e-commerce has exerted on established business models that have been the cornerstone of the marketplace, thus offering critical knowledge that can be leveraged by stakeholders and policymakers involved in this domain for thoughtful decision-making and strategic advancement. *Design/ Methodology:* A structured questionnaire was used to carry out the survey. Data were gathered using both offline and online methods. Data were gathered online using Google Forms. Participants were chosen using random sampling and convenience sampling methods. A total of 225 replies from consumers and 135 replies from textile and apparel industries were used for data analysis. *Findings:* The investigation revealed that elements including convenience, diversity, competitive pricing strategies and assurance in return policies substantially impact consumer inclinations toward online purchasing within the textile and apparel sector of Bengaluru. Moreover, digital platforms have transformed sales and distribution mechanisms, compelling conventional enterprises to adopt hybrid operational models and modifying supply chain dynamics within the industry. *Limitations:* The research is confined to Bengaluru, affecting the applicability of results to other locales with distinct market conditions. The data obtained from consumers, retailers and distributors may not accurately reflect the broader population due to sampling limitations. Rapid changes in e-commerce and consumer behavior may make certain conclusions ephemeral and less applicable over time. The research may inadequately represent the viewpoints of all relevant stakeholders, including manufacturers and third-party logistics entities. Survey and interview answers from participants can often reflect a tendency towards social approval or may involve inaccurate self-perception. The analysis may overlook the implications of emerging technologies like AI and blockchain, which could significantly impact sales and distribution. *Originality Value:* The distinctiveness of this investigation is rooted in its concentration on Bengaluru, a metropolitan area situated at the intersection of conventional textile markets and an expeditiously expanding e-commerce industry. Through a thorough examination of localized consumer inclinations and the particular effects of digital platforms on sales and distribution, the research offers pragmatic insights specifically designed for this exceptional market environment.

Paper Type: Research Paper

Keywords: Technology, Digital platforms, Sales and distribution, Textile industries, Supply chain, Bengaluru etc.

INTRODUCTION

The textiles and apparel sector has historically served as a fundamental pillar of the economic landscape in Bengaluru (K Nagavani, 2018)(Yadav, 2023)(Basavaraj et al., 2024), incorporating a diverse array of traditional marketplaces, contemporary retail establishments and flourishing export centers that together contribute significantly to the local economy (Basavaraj et al., 2024). Given the growing dominance of digital innovations and the broad accessibility of online connectivity (Lim et al., 2016), virtual shopping environments have developed into key players that deeply impact buyer actions, prompting a necessary overhaul of age-old sales and distribution strategies in this field (Surjono, 2024)(K Nagavani, 2018). Bengaluru, a metropolis celebrated for its technologically adept populace and its vigorous e-commerce infrastructure,

offers a distinctive context in which to critically examine this multifaceted transition (Parvathamma, 2015).

The emergence of online shopping platforms has significantly transformed the modalities through which consumers partake in the acquisition of textiles and apparel (Panigrahi & Joshi, 2016a), offering unparalleled convenience, competitive pricing frameworks and a vast array of product selections that were previously inaccessible (K. PRIYA, 2023). The incorporation of features such as tailored recommendations based on previous purchasing behaviors, streamlined payment mechanisms that enhance user experience and adaptable return policies designed to meet consumer needs have significantly bolstered the attractiveness of these digital platforms (Shetty et al., 2013). Yet, these innovations in

technology create substantial hurdles for traditional sellers and distributors, urging them to reevaluate and upgrade their operational methods to preserve their edge in a market that is becoming more digitally focused (Dr.T.S Devaraja, 2011)(Mathew, 2015). The primary aim of this scholarly inquiry is to discern the pivotal factors that shape consumer preferences for online shopping specifically within the textiles and apparel sector. Businesses that aspire to connect their offerings with the ongoing changes in consumer expectations must prioritize understanding these determinants. The secondary objective of this research endeavor is to critically assess the transformation of sales and distribution channels that has occurred within the industry, with a particular emphasis on the ways in which online platforms have fundamentally disrupted established practices and facilitated the introduction of new operational efficiencies that enhance overall productivity. By systematically addressing these objectives, this study aspires to furnish a holistic comprehension of the ongoing transformations occurring within Bengaluru's textiles and apparel market. The insights derived from this research will not only illuminate prevailing consumer behaviors but will also provide strategic recommendations for traditional enterprises striving to navigate the complexities of this digital evolution. Ultimately, this academic investigation contributes to the broader discourse surrounding the ways in which e-commerce is fundamentally reshaping various industries and the economic frameworks that underpin rapidly urbanizing locales such as Bengaluru.

REVIEW OF LITERATURE

2.1. Frequency of Online-shopping:

The frequency with which individuals engage in online shopping specifically for textiles and apparel has experienced a notable and substantial increase, particularly within urban centers such as Bengaluru, where the proliferation of digital commerce has transformed consumer behavior. This observable trend is largely propelled by the unparalleled convenience and accessibility that various online platforms provide, thereby empowering consumers to engage in shopping activities at virtually any time and from any geographical location that they choose (Semenenko, 2011)(Surjono, 2024). Contributing elements to this situation encompass the arrival of much faster internet availability, the widespread engagement with smartphones across the community and the expansion of accessible e-commerce solutions that have collectively rendered online purchasing the preferred route for a notable demographic of consumers (Beninger et al., 2016)(Purwaningtyas & Rahadi, 2021). It is notable that consumers exhibit a tendency to engage in online shopping with greater frequency during particular time frames, which include festive seasons characterized by heightened consumer spending (Dhiman et al., 2018), end-of-season clearance sales that offer enticing bargains and promotional campaigns that feature incentives such as discounts or complimentary delivery services (Dhiman et al., 2018)(Majumdar et al., 2021)(Abinaya S, Bhuvaneshwaran S, Gowthaman N, 2024). Furthermore, the patterns of online purchasing are affected by multiple individual variables, which involve considerations such as income availability, habitual shopping trends and the level of trust

and reliability perceived in the online platforms they utilize for their buying needs (Lim et al., 2016)(Mohamad Nor et al., 2023). In the specific context of textiles and apparel, online platforms afford consumers the opportunity to explore an extensive array of options pertaining to style, size and pricing, which in turn fosters a propensity for repeat purchases due to the enhanced variety available (Gong et al., 2013)(Maiti, 2021). Moreover, studies indicate that younger people and tech-savvy individuals are generally more likely to shop online regularly (Helen & Charlotte, 2012), in contrast to older adults who may favor occasional online buys that serve particular purposes or special events (Sun & Chi, 2018). Despite the documented increase in the frequency of online shopping, it is crucial to acknowledge that this practice may vary due to a range of challenges, including prolonged delivery times, concerns regarding product quality and the fundamental limitation of being unable to physically assess products prior to making a purchasing decision (Mohamad Nor et al., 2023). Businesses that strategically address these obstacles in an effective manner have the potential to not only encourage increased frequency of online shopping but also to cultivate enduring consumer loyalty over the long term (Lim et al., 2016).

2.2. Factors of Influencing:

2.2.1. Price Sensitivity: Consumers exhibit a heightened awareness and sensitivity towards pricing, particularly within the dynamic and competitive textiles and apparel sector, where pricing strategies can significantly influence purchasing behavior (KUMAR, 2018). The proliferation of online shopping platforms has introduced an environment characterized by competitive pricing structures, frequent promotional discounts and strategically timed seasonal sales, thereby rendering these digital marketplaces particularly appealing to consumers who are keenly aware of their budgetary constraints (Akhtar et al., 2022).

2.2.2. Convenience: The paramount convenience derived from the ability to engage in shopping activities at any time and from virtually any location stands out as a critical factor influencing contemporary consumer behavior (Mathew, 2015)(Beninger et al., 2016). This capacity for remote shopping effectively enables consumers to conserve both time and physical exertion by eliminating the necessity of traveling to traditional brick-and-mortar retail establishments (Fatorachian & Ramesh, 2024) and enduring lengthy queues, consequently positioning online shopping as the preferred modality for a significant segment of the population (Gazzola et al., 2020).

2.2.3. Variety of Choices: Online shopping platforms grant consumers access to an extensive and diverse array of products, brands and styles that far surpass the limited selections typically available at most physical retail outlets (Panigrahi & Joshi, 2016b). This broad spectrum of options not only caters to a wide range of individual tastes and preferences (Qizwini & Khatimah, 2024), but also accommodates various budgetary considerations, thereby enhancing the overall shopping experience for consumers with differing needs and desires.

2.2.4. Trust: Online shoppers generally favor platforms that they trust to have solid security systems and reliability (Bommanavar, 2022), particularly in terms of safeguarding sensitive information, the safety of payment operations and the legitimacy of the merchandise being sold (Muthamma & Dr .RanjithKumar, 2018). The attention to trust reveals the significant necessity of building a reliable online shopping environment that eases customer apprehensions and nurtures a sense of safety in the buying process.

2.2.5. Fast Delivery: The presence of fast shipping options, including same-day or next-day services (Panigrahi & Joshi, 2016b), is essential in affecting consumer buying behavior, particularly in cases where timely needs emerge, for instance, when purchasing festive wear or gifts for celebrations (K. et al., 2023). This emphasis on rapid fulfillment of orders not only enhances consumer satisfaction but also significantly influences the likelihood of purchase completion in a competitive marketplace.

2.2.6. Reviews and ratings: Reviews and ratings of products are indispensable tools for consumers, granting them significant understanding of the quality, fit and total performance of merchandise ahead of their buying decisions (Gazzola et al., 2020)(Petrillo et al., 2024). By facilitating access to the experiences and evaluations of previous customers, these reviews effectively empower consumers to make more informed choices, thereby diminishing the risk of post-purchase dissatisfaction and enhancing the overall shopping experience.

2.2.7. Personalized Shopping: Experience Features that incorporate personalized shopping experiences, such as tailored product recommendations and curated lists of items that align with individual consumer preferences, serve to significantly enrich the overall shopping experience (Panigrahi & Joshi, 2016a). By leveraging data-driven insights to create a more customized shopping journey, these platforms not only enhance consumer engagement but also promote repeat purchasing behavior through a sense of personal connection and relevance (Semenenko, 2011).

2.2.8. Ease of Comparison: The unique benefits offered by digital shopping sites enable shoppers to easily assess prices, styles and attributes of various items from numerous labels with minimal effort, thus promoting a more educated and effective decision-making experience (Periyasami & Periyasamy, 2022)(Petrillo et al., 2024). This ability to conduct comprehensive comparisons in a streamlined manner ensures that consumers can make well-considered choices that align with their preferences and budgetary constraints (KUMAR, 2018).

2.2.9. Quality Assurance and Return Policies: The provision of clear and detailed product descriptions, coupled with quality certifications and streamlined return and refund policies, serves to instill a profound sense of confidence in consumers regarding their online purchasing decisions (Thompson & Tong, 2016). By clearly communicating the standards of quality and the terms of return, online retailers can effectively mitigate consumer

anxiety, thereby encouraging greater participation in the digital marketplace.

2.2.10. Discounts and Offers: Exclusive Online Discounts and Offers Promotional strategies such as flash sales, exclusive coupon codes and loyalty programs that are available solely through digital platforms cultivate a distinct sense of exclusivity and urgency among consumers. This strategic approach not only incentivizes increased shopping frequency but also enhances consumer engagement by appealing to their desire for unique deals and savings that cannot be accessed through traditional retail channels.

2.3 Distribution and Sales Channels:

The distribution and sales channels within the textiles and apparel industry have undergone a remarkable evolution, characterized by significant transformations that have emerged in conjunction with the proliferation of online platforms, resulting in a sophisticated amalgamation of both traditional and digital methodologies (Akhtar et al., 2022). This notable transformation has not only streamlined the intricate process of transporting products from manufacturers directly to end consumers but has also substantially enhanced overall efficiency as well as the market reach of these goods.

2.3.1. Traditional distribution: The distribution process for textiles and apparel has long been characterized by a complex network involving wholesalers, distributors and retailers, all collaborating effectively. This established distribution framework predominantly relied on physical retail environments including, but not limited to, quaint small boutiques and expansive retail chains that dominate the market landscape. While this model continues to retain some degree of relevance in contemporary commerce, it has undeniably encountered formidable challenges posed by the escalating competition emanating from the burgeoning e-commerce sector.

2.3.2. Online Sales Channels: The advent of e-commerce platforms such as Amazon, Flipkart and Myntra has brought about a revolutionary transformation within the industry, as these digital marketplaces provide unprecedented direct access to an extensive and diverse customer base (Muthamma & Dr .RanjithKumar, 2018)(Panigrahi & Joshi, 2016b)(Khurana, 2018). Furthermore, these online platforms are equipped with sophisticated features that encompass real-time inventory management systems, nationwide shipping capabilities and analytics-driven marketing strategies that facilitate targeted consumer engagement (Ghoreishi & Happonen, 2021). Additionally, online-only brands and smaller enterprises have experienced a notable surge in traction (Pathan, 2021), largely attributable to their strategic utilization of social media marketplaces and the development of personalized websites designed to enhance their visibility and consumer interaction (Fatorachian & Ramesh, 2024).

2.3.3. Hybrid Models (Omnichannel): A growing number of traditional retailers are increasingly embracing hybrid models that adeptly integrate both offline and online sales

channels in an effort to effectively reach a broader and more diverse customer demographic (Ghoreishi & Happonen, 2021). The implementation of omni-channel strategies, exemplified by practices such as "buy online, pick up in-store" (BOPIS), serves to create a seamless and cohesive shopping experience for consumers while simultaneously leveraging the established infrastructure of physical retail locations to maximize customer convenience and satisfaction (Mathew, 2015).

2.3.4. Direct-to-Consumer (D2C): In a contemporary shift towards greater autonomy, brands are progressively choosing to bypass intermediaries altogether, opting instead to sell directly to consumers through their own websites or dedicated mobile applications. This strategic approach affords these brands a heightened level of control over crucial aspects such as branding initiatives, customer engagement practices and ultimately, the profit margins associated with their products.

As e-commerce continues to surge, modern distribution models are leaning more towards third-party logistics services and conveniently located fulfillment centers to secure the rapid and efficient transfer of goods to shoppers in a swiftly changing market (Abinaya S, Bhuvaneshwaran S, Gowthaman N, 2024).

2.4. Challenges:

In the rapidly evolving and highly competitive domain of online textiles and apparel, the realm of customer support encounters a multitude of significant challenges that are particularly pronounced, including the inherent absence of personal interaction between the service provider and the consumer, which fundamentally restricts the capacity to establish a solid foundation of trust and to effectively address and resolve customer concerns in a timely manner. The prevalence of delayed response times, coupled with intricate and often convoluted complaint resolution processes, such as the handling of defective merchandise or the issuance of refunds (Dr. Kiran Kumar Thoti, 2015), can ultimately culminate in an elevated level of customer dissatisfaction and a deterioration of the overall consumer experience (Yadav, 2023). Furthermore, the presence of language barriers within a diverse and multicultural market such as that of Bengaluru (Prof.Lakshminarayana.K; Dr.K.Gayathri Reddy, 2018), combined with the inherent difficulties associated with scaling customer support operations during periods of peak demand, serves to further complicate and exacerbate the challenges faced by customer service departments (K Nagavani, 2018). Inventory management emerges as yet another critical obstacle that businesses must navigate, as they grapple with the complexities of maintaining real-time tracking of inventory levels across a multitude of sales channels, a situation that frequently results in either overstocking of products or instances of stockouts that can hinder sales potential (Panigrahi & Joshi, 2016a). The frequent occurrence of errors in demand forecasting, particularly in the context of rapidly evolving fashion trends that can shift with little warning, can lead to undesirable outcomes such as surplus inventory that must be discounted or lost sales opportunities due to unavailability of in-demand items

(Beninger et al., 2016). Furthermore, the strain of excessive storage and warehousing expenditures, combined with the fallout from ineffective inventory management techniques and the challenges of coordinating a diverse range of stock-keeping units (SKUs) of various dimensions and designs, increases the hurdles linked to proficient inventory administration. Moreover, delivery-related issues present substantial hurdles that are not to be overlooked, particularly in relation to last-mile delivery delays that can be attributed to persistent traffic congestion or challenges in accurately locating residential or commercial addresses. The notably high rates of product returns, often driven by discrepancies in size or fit, serve to inflate logistics costs and create additional burdens on the system, while an over-reliance on third-party delivery partners can lead to inconsistencies in the quality of service provided to consumers. Furthermore, the venture of offering swift shipping services entails notable expenditures and the recurring problem of guaranteeing that items get to their designated locations intact, without being vulnerable to theft or harm during transportation, stays a major issue for many firms in this field. To effectively deal with these overlapping and intricate challenges, it is essential to put in place sturdy operational systems, merge sophisticated tech solutions and formulate consumer-focused approaches that consider the wants and needs of the clientele.

2.5. Demographics profile

The online textiles and apparel marketplace in Bengaluru serves a heterogeneous demographic spectrum, shaped by variables such as gender, age and income. Women represent a substantial segment of online consumers, particularly in the domains of ethnic garments, casual wear and accessories, whereas men typically engage in the procurement of formal clothing, casual attire and athletic wear (Lim et al., 2016). Moreover, gender-neutral or unisex clothing is increasingly gaining popularity, indicative of shifting societal paradigms. Concerning age demographics, young adults aged 18–24 exhibit heightened engagement in online retail, pursuing fashionable and economical apparel, frequently influenced by social media figures (Gazzola et al., 2020). The demographic cohort of 25–29 years and 30–39 years, consisting of employed professionals and emerging families, constitutes the predominant consumer segment, emphasizing convenience, product quality and brand reputation. Consumers in the middle-aged bracket (40 years & above) tend to prioritize established brands and premium, long-lasting goods, while individuals aged 60 and above are gradually embracing online purchasing for comfortable clothing and essential items, motivated by the ease of home delivery services. Economic status also significantly influences shopping behaviors. Consumers within the low-income bracket, earning less than ₹35,000 monthly, exhibit a heightened sensitivity to pricing, often depending on promotions and sales events. People in the income bracket of ₹35,000 to ₹75,000 per month work to find a sweet spot between value and quality, typically choosing mid-tier brands. Conversely, high-income consumers, earning above ₹75,000, tend to prioritize luxury and premium brands, placing a high value on exclusivity and customized shopping experiences. These demographic analyses empower businesses to strategically adapt their

approaches to effectively cater to the varying requirements of consumers(Gazzola et al., 2020).

RESEARCH METHODOLOGY

3.1. Research Context

The textiles and apparel sector plays a crucial role in Bengaluru's economy, boasting a rich heritage of traditional marketplaces alongside a burgeoning number of modern retail stores. Nevertheless, the swift rise of online platforms has significantly transformed the sales and distribution dynamics within this industry. E-commerce behemoths, in addition to specialized platforms, have risen to prominence, providing consumers with convenience, a wide array of choices and competitive pricing. This shift is fueled by elements such as greater internet accessibility, increased smartphone adoption and a change in consumer preferences towards digital shopping avenues. Concurrently, traditional enterprises are facing the challenge of adjusting to new sales strategies while striving to remain relevant in an intensely competitive environment. The research is framed within Bengaluru's vibrant market, recognized for its tech-savvy demographic and varied consumer base, rendering it an ideal location to explore the

interaction between conventional and online sales channels. The intention is to impart a substantial awareness of this transition and its consequences for consumers, retailers and distributors.

3.2. Objectives of the study

1. To identify the key factors influencing consumer preferences for online shopping in the textile and apparel industry in Bengaluru.
2. To evaluate the transformation of sales and distribution channels in the textile and apparel industry due to online platforms in Bengaluru.

3.3. Hypothesis of the study

H₀₁: There is a significant relationship in key factors influencing consumer preferences for online shopping in the textile and apparel industry in Bengaluru.

H₀₂: There is a significant increase in online sales percentage after adopting online Platforms.

H₀₃: There is a significant impact of change in distribution channel on sales.

4. Analysis and Interpretation

This section illustrate the results of detailed analysis of 225 consumers of textile and apparel industry in Bengaluru and 135 textile and apparel companies in Bengaluru The researcher has collected data regarding the key factors influencing consumer preferences, frequency of shopping in online, sales before and after the adoption and distribution channel along with the challenges due to change their distribution channels, moreover respondent's demographic profile also been gathered. The objective of this study was to identify the key factors influencing consumer preferences for online shopping in the textile and apparel industry in Bengaluru and to evaluate the transformation of sales and distribution channels in the textile and apparel industry due to online platforms in Bengaluru. The data was processed and analysed using statistical tools such as tabulation, descriptive statistics, Regression test, Paired T test and Factor analysis to ascertain the precise relationships and differences among the variables.

Objectives 1: To identify the key factors influencing consumer preferences for online shopping in the textile and apparel industry in Bengaluru.

The demographic factor like gender, age and income also plays an important role in adoption of online shopping, so in order to identify the key factors influencing consumer preferences for online shopping in the textile and apparel industry in Bengaluru, a **cross tabulation analysis** is conducted between demographic factor and frequency of shopping in online, this helps to the know the consumer engagement towards the purchase of apparels through online and as a further study a **factor analysis** is conducted, This tool will assess the significance level between different key factors influencing consumer preferences for online shopping in the textile and apparel industry in Bengaluru. The principle component method will be used to extract the factor from the variable that have been grouped according to its component. Additionally, the loading of each component will be evaluated to name them. The factors considered in this study are: Price Sensitivity, Convenience, Variety of Choices, Trust in Online Platforms, Fast Delivery Options Customer Reviews and Ratings, Personalized Shopping Experience, Ease of Comparison, Quality Assurance and Return Policies, Exclusive Online Discounts and Offers and 225 sample size.

Table no 1: Cross tabulation of respondents on Gender basis and their Online Shopping Frequency

			Online Shopping Frequency			Total
			Frequently	Occasionally	Rarely	
Gender	Male	Count	39	44	26	109
		% within Gender	35.8%	40.4%	23.9%	100.0%
	Female	Count	48	48	20	116
		% within Gender	41.4%	41.4%	17.2%	100.0%
Total		Count	87	92	46	225
		% within Gender	38.7%	40.9%	20.4%	100.0%

Interpretation:

The above table depicts the Interesting trends in consumer behaviour which are revealed by the cross-tabulation analysis of respondents by gender and frequency of online shopping of 225 consumers. Among 109 male respondents, 35.8% reported

frequent online shopping, 40.4% occasionally and 23.9% rarely; in contrast, among 116 female, 41.4% of respondents reported a slightly higher percentage of frequent online shoppers, the same proportion (41.4%) for occasional shoppers and a lower percentage of rare shoppers (17.2%). Overall, female respondents showed a greater inclination towards frequent online shopping than male respondent, the percentage of occasional shoppers was relatively similar between the genders, with females marginally leading, however, male respondents were more likely not to shop online frequently, suggesting possible differences in preferences, trust, or accessibility to online platforms. This analysis highlights the necessity of gender-specific marketing strategies for online shopping platforms in the textile and apparel industry.

Table no 2: Cross tabulation of respondents on Age group basis and their Online Shopping Frequency

			Online Shopping Frequency			Total
			Frequently	Occasionally	Rarely	
Age	18-24	Count	29	26	17	72
		% within Age	40.3%	36.1%	23.6%	100.0%
	25-29	Count	37	35	13	85
		% within Age	43.5%	41.2%	15.3%	100.0%
	30-39	Count	18	17	11	46
		% within Age	39.1%	37.0%	23.9%	100.0%
Total	40 and above	Count	3	14	5	22
		% within Age	13.6%	63.6%	22.7%	100.0%

Interpretation:

The above table shows the significant variations in the buying habits of respondents by age group and the frequency of their online purchases, according to the cross-tabulation study. Among 72 respondents of age group 18-24, with 40.3% of people in the 18–24 age range buying online frequently, 36.1% occasionally and 23.6% rarely, they exhibit a balanced attitude. This implies that a sizable fraction of younger customers actively engage in internet purchasing. In a similar vein, 85 respondents of the age group of 25 to 29, 43.5% has the largest proportion of regular shoppers, occasionally consumers (41.2%) and rarely shoppers (15.3%). Accordingly, the age group of 25 to 29 is the most active when it comes to internet buying. The 46 respondents of 30-39 age group has a somewhat greater number of rare consumers (23.9%) than younger groups, but the percentages of regular (39.1%) and occasional (37.0%) customers are comparatively comparable. A notable characteristic of 22 respondent of 40 and above age group is that just 13.6% of them shop frequently, while a sizable majority (63.6%) and 22.7% shop occasionally and rarely, respectively. Overall, the data shows that older respondents (40 and older) prefer to purchase online occasionally, whereas younger age groups (18–29) utilize online shopping platforms more frequently. Younger groups are more dependent on internet platforms for their buying requirements, indicating a generational change in consumer behaviour.

Table no 3 : Cross tabulation of respondents on Income basis and their Online Shopping Frequency

			Online Shopping Frequency			Total
			Frequently	Occasionally	Rarely	
Income Level	Less than 35K	Count	35	37	16	88
		% within Income Level	39.8%	42.0%	18.2%	100.0%
	35K - 75K	Count	34	41	21	96
		% within Income Level	35.4%	42.7%	21.9%	100.0%
	75k and above	Count	18	14	9	41
		% within Income Level	43.9%	34.1%	22.0%	100.0%
Total		Count	87	92	46	225
		% within Income Level	38.7%	40.9%	20.4%	100.0%

Interpretation:

The above cross-tabulation of respondents according to their frequency of online purchasing and income level shows that different income categories have different habits. Among 88 respondents, 39.8% of those with less than ₹35,000 buy online regularly, 42.0% do so occasionally and 18.2% do rarely. The frequency of shopping in this group is balanced, with occasional shopping being somewhat more common. In a similar vein, 96 respondents having income between ₹35,000 and ₹75,000 also prefer to purchase occasionally (42.7%), frequently (35.4%) and rarely (21.9%) online. It is interesting to note that 41 respondents having highest income group (those making ₹75,000 and more) has a distinct trend, with 43.9% of them frequently buying online, the largest percentage of frequent consumers across all income categories. While 22.0% of them buy online rarely, their occasional shopping rate (34.1%) is the lowest.

All things considered, the most prevalent behaviour across all income categories is occasional shopping, yet frequent buying rises as income levels rise. This implies that those who have more money to spend are more likely to purchase online frequently, maybe as a result of having better access to technology and having more money to spend.

Factor Analysis

Hypothesis:

H₀: There is no significant relationship in key factors influencing consumer preferences for online shopping in the textile and apparel industry in Bengaluru.

H₁: There is a significant relationship in key factors influencing consumer preferences for online shopping in the textile and apparel industry in Bengaluru.

Table no 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.881
Bartlett's Test of Sphericity	Approx. Chi-Square	1195.913
	Df	45
	Sig.	.000

Interpretation:

The above results indicate that a factor analysis can be applied to the set of given data as the value of KMO statistics is greater than 0.5, i.e., 0.881 and the Bartlett's test of sphericity represents the significance level towards factors for study as the p-value (chi-square = 1195.913, df = 45, p = .000) is less than the level of significance.

Table no 5: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.615	56.154	56.154	5.615	56.154	56.154	3.499	34.990	34.990
2	1.244	12.442	68.596	1.244	12.442	68.596	3.361	33.606	68.596
3	.625	6.249	74.845						
4	.572	5.724	80.569						
5	.501	5.014	85.582						
6	.390	3.903	89.485						
7	.333	3.331	92.816						
8	.291	2.914	95.730						
9	.223	2.233	97.963						
10	.204	2.037	100.000						

Extraction Method: Principal Component Analysis.

Interpretation:

From the above table of total variance explained, there are two components extracted through principal component analysis, resulting in a total of 68.596 percent of the variations in the entire data set, which are considered based on Eigen values having more than 1 value, which are said to be significant. The percentage of variation explained by both the components are 34.990 and 33.606 respectively.

Table no 6: Component Matrix and Communalities

	Component Matrix ^a		Communalities	
	1	2	Initial	Extraction
Price Sensitivity	.671	.473	1.000	.674
Convenience	.779	.297	1.000	.696
Variety of Choices	.769	-.094	1.000	.600
Trust in Online Platforms,	.750	-.446	1.000	.761
Fast Delivery Options	.709	-.544	1.000	.798
Customer Reviews and Ratings	.773	-.351	1.000	.721
Personalized Shopping Experience	.792	-.154	1.000	.651
Ease of Comparison	.781	.152	1.000	.632
Quality Assurance and Return Policies	.732	.416	1.000	.709
Exclusive Online Discounts and Offers	.729	.292	1.000	.617

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Interpretation:

The above table indicates the component matrix with communalities, i.e., factor loading of each component extracted with the

principal component method and communalities say the sum of squares of each value of a particular variable; it is a measure of the percentage of variable variation that is explained by factors. The highest communalities are Trust in Online Platforms, Fast Delivery Options, Customer Reviews and Ratings and Quality Assurance and Return Policies which indicate accountability of each variable by the underlying factors taken together.

Table no 7: Rotated Component Matrix

	Component	
	1	2
Price Sensitivity	.811	.128
Convenience	.766	.329
Variety of Choices	.487	.602
Trust in Online Platforms,	.229	.842
Fast Delivery Options	.130	.884
Customer Reviews and Ratings	.311	.790
Personalized Shopping Experience	.462	.662
Ease of Comparison	.666	.434
Quality Assurance and Return Policies	.815	.210
Exclusive Online Discounts and Offers	.727	.297
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

Interpretation:

From the above study, two components have been extracted using an extraction method called principal component analysis, followed by a rotation method called Varimax with Kaiser Normalization, performed to the factor loading of each component extracted. We will use the rotated component matrix using 0.8 as a cut-off point for factor loading when naming the factors. Component 1 comprises of Price Sensitivity and Quality Assurance and Return Policies. This can be named as **Cost Quality Dynamics and Return Policies Factor**. Component 2 comprises of Trust in Online Platforms and Fast Delivery Options. This can be named as **Reliability and Efficiency Factor**.

Therefore, From the Test of **KMO and Bartlett's test of sphericity** the factor analysis applied is said to be significant where P-value is less than the level of significance of 1% and 5% therefore **alternative Hypothesis** is satisfied as there is **significant** relationship in key factors influencing consumer preferences for online shopping in the textile and apparel industry in Bengaluru.

Objectives 2: To evaluate the transformation of sales and distribution channels in the textile and apparel industry due to online platforms in Bengaluru.

A detailed analysis is conducted to evaluate how online platforms are impacting on sales and distribution channels in apparel industry among 135 respondents having industry profile, in which **Paired sample T test** is conducted to know whether the adoption of online platforms has impact on sales, so here sales percentage after and before adoption of online shopping is been considered and a **Regression test** is conducted to know whether change in distribution channels has impacted the sales. As a further study, a **cross tabulation analysis** is been conducted on challenges due to change in distribution channels.

Paired-sample t test:

Hypothesis:

H₀: There is no significant increase in online sales percentage after adopting online Platforms.

H₁: There is a significant increase in online sales percentage after adopting online Platforms.

Table no 8: Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Sales before Adoption	49.5967	135	11.5414	.9933
	Sales after Adoption	73.0939	135	14.9032	1.2826

Table no 9: Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Sales before Adoption - Sales after Adoption	-23.4971	18.7442	1.6132	-26.6879	-20.3064	-14.565	134	.000

Interpretation:

A paired sample t-test was used to determine the effect of online platform adoption on apparel sales. The study examined 135 industry representatives' sales percentages before and after they used online platforms. There are important insights from comparing sales before and after the use of internet platforms. The paired samples data show a significant increase in mean sales from 49.60 before to adoption to 73.09 after adoption along With standard deviations of 11.54 and 14.90. This significant increase implies that the textile and clothing industry's sales have impacted from the use of online platforms.

The paired samples test shows that the sales difference is statistically significant in which the mean difference is -23.50 and a p-value is 0.000 less than significance level. A 95% confidence interval between -26.69 and -20.31 further supports this noteworthy shift. These findings show how the use of online platforms transformed sales performance and helped companies in the sector achieve notable increases in sales.

Linear regression test

Hypothesis test:

H₀: There is no significant impact of change in distribution channel on sales.

H₁: There is a significant impact of change in distribution channel on sales.

Table no 10: Model Summary linear regression and Result of ANOVA and F value

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.184a	.034	.027	14.703		
a. Predictors: (Constant), Distribution Channels Used						
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1007.305	1	1007.305	4.659	.033 ^b
	Residual	28755.086	133	216.204		
	Total	29762.391	134			
a. Dependent Variable: Sales after Adoption						
b. Predictors: (Constant), Distribution Channels Used						

Table no 11: Results showing the Coefficients of independent variable and its significance level

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	66.817	3.171		21.068	.000
	Distribution Channels Used	3.272	1.516	.184	2.158	.033
a. Dependent Variable: Sales after Adoption						

Interpretation:

The above tables show the result of the linear regression conducted between sales after adoption of online platform and change in distribution channels, in which the hypothesis tests if change in distribution channels have a significant impact on Sales growth and this model depicts the overall significant impact of change in distribution channel on sales, with a p value that is less than the significance value, $F(1,133) = 4.659, p < 0.05$. Moreover, the $R^2 = 0.034$ indicates that the model explains 3.4% of the variance in sales growth and the change in distribution channel can predict the sales growth. Hence **change in distribution channels** are significant predictors of **sales** growth having significant impact support alternative hypothesis.

Table no 12: Cross tabulation of Distribution channels used and challenges faced by industry respondents

			Challenges Faced			Total
			Customer support	Inventory Management	Delivery issues	
Distribution Channels Used	Online	Count	21	13	19	53
		% within Distribution Channels Used	39.6%	24.5%	35.8%	100.0%
	Offline	Count	17	11	12	40
		% within Distribution Channels Used	42.5%	27.5%	30.0%	100.0%
	Both	Count	10	11	21	42
		% within Distribution Channels Used	23.8%	26.2%	50.0%	100.0%
Total		Count	48	35	52	135
		% within Distribution Channels Used	35.6%	25.9%	38.5%	100.0%

Interpretation:

The cross-tabulation of industry respondents' distribution channels and challenges sheds light on the particular problems that arise in various channels. Of 53 respondents who used online channels, 39.6% said they had trouble with customer service, 24.5% said they had trouble managing their inventory and 35.8% said they had trouble with delivery. Customer assistance (42.5%) was the most often mentioned obstacle for business respondents using offline channels, followed by inventory management (27.5%) and delivery problems (30.0%). Interestingly, 42 respondents who used both online and offline channels indicated a clear pattern, the most common obstacle was delivery (50.0%), followed by inventory management (26.2%) and customer service (23.8%). The mechanics of distribution across both kinds of channels seem to be more difficult for this group to handle. Overall, delivery problems accounted for 38.5 percent of all distribution channel challenges, with customer service coming in second at 35.6 percent and inventory control at 25.9%. These results underline the need of focused approaches to improve customer service systems, eliminate delivery bottlenecks and simplify inventory management for companies involved in Bengaluru's textile and clothing sector.

CONCLUSION

The comprehensive investigation elucidates the significant and multifaceted influence that digital platforms exert on the textiles and apparel sector within the metropolitan area of Bengaluru, particularly accentuating two principal domains: the evolution of consumer preferences and the consequential transformation of sales and distribution channels. The evidence collected from this exploration shows that numerous elements—including but not solely limited to sensitivity to costs, the comfort linked to online retailing, the considerable diversity of available selections, the extent of trust shoppers invest in digital platforms, the rapidity of delivery methods, the value of user reviews and the availability of customized shopping experiences—are fundamental in determining and affecting consumer habits. These critical factors collectively highlight the escalating dependence on e-commerce within the textiles and apparel industry, which is primarily propelled by the consumer's desire for an uninterrupted and highly efficient shopping experience that meets their evolving needs. Additionally, the findings stress the level to which online services have profoundly disturbed and restructured the traditional frameworks of selling and distributing that have typically governed the market. The boom in digital retailing has brought about the rise of D2C business models, streamlined logistics frameworks and widened access to a vast consumer audience, thereby changing the competitive scenario. Due to these groundbreaking trends, traditional merchants are steadily investing in hybrid omni-channel plans to keep their competitive leverage in this rapidly shifting sphere, while third-party logistics entities and fulfillment operations are integral in making certain that delivery frameworks function with augmented efficiency. Regardless of these meaningful strides, the domain remains entangled with lasting issues, which comprise but aren't restricted to effective stock control, the provision of sturdy customer service and the difficulties related to last-leg delivery, all of which require relentless innovation and strategic shifts to cater to consumer preferences.

In summary, the proliferation of online platforms has fundamentally redefined and reshaped the textiles and apparel marketplace within the city of Bengaluru, simultaneously presenting a range of opportunities as well as challenges for stakeholders in the industry. Businesses engaged in this domain must prioritize effectively utilizing these insights to boost customer contentment, refine their supply chain activities and create strategies that correspond with the constantly changing terrain of consumer

inclinations and the unpredictable nature of market scenarios.

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