



ANALYZING THE IMPACT OF AGE ON APPAREL PURCHASE FREQUENCY AMONG THE YOUTH IN THE NCR REGION OF HARYANA: A STATISTICAL APPROACH

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Abstract

This study investigates the impact of age on apparel purchasing frequency among the youth in the National Capital Region (NCR) of Haryana, India. Utilizing a quantitative research methodology, data from 385 respondents across five age groups were analyzed through descriptive statistics and ANOVA tests. The findings reveal significant differences in purchase frequency among different age groups, indicating that age plays a critical role in shaping apparel purchasing behaviors. This study contributes to the understanding of consumer behavior in the apparel industry, offering insights for marketers, advertisers, and policymakers to develop age-specific strategies. The results underscore the necessity of tailoring marketing approaches to cater to the distinct preferences of various age cohorts within the youth demographic.

Keywords; Apparel Purchasing Frequency, Consumer Behavior, Age Segmentation, Marketing Strategies, Youth Demographics, National Capital Region (NCR)

1. INTRODUCTION

In the contemporary marketplace, the apparel industry stands as a beacon of rapid change and fierce competition, where understanding consumer behavior transcends mere observation to become an essential element for success. Particularly in regions characterized by their demographic diversity and economic vitality, such as the National Capital Region (NCR) of Haryana, India, the complexity of consumer preferences becomes even more pronounced. Here, the blend of economic, social, and cultural factors creates a dynamic environment that significantly influences consumer behavior. The NCR, with its amalgamation of urban sophistication and semi-urban pragmatism, serves as an exemplary microcosm for studying these patterns. The youth demographic, in particular, emerges as a critical segment for analysis due to its substantial influence on current and future market trends. This group's buying patterns, driven by a mix of traditional values and modern influences, necessitate a deeper dive into understanding how age, alongside other demographic factors such as gender, occupation, and income levels, shapes their purchasing decisions, especially in the context of apparel.

The dynamism of the apparel industry in the NCR region is further amplified by the evolving economic landscape and the burgeoning influence of digital media. Economic growth and increased disposable income among the youth have led to heightened consumerism, with a marked shift towards brand consciousness and fashion-forward purchasing behaviors. However, these trends are not uniform across the board. Variances in occupation and income levels within the youth demographic lead to diverse consumer profiles, each with unique preferences and purchasing capacities. For instance, students and young professionals represent distinct segments within the youth demographic, influenced differently by marketing strategies and economic factors. This segmentation highlights the need for marketers to adopt multifaceted strategies that cater to the specific needs and aspirations of each subgroup. Understanding these nuances is paramount for brands aiming to penetrate the market effectively and establish a loyal customer base.

Moreover, the role of gender in shaping apparel purchasing behavior cannot be overstated. Cultural norms and societal expectations in the NCR region contribute to distinct shopping patterns between male and female consumers. While traditional gender roles are evolving, they still play a significant role in influencing fashion choices and shopping habits. For instance, female consumers in the region may exhibit a greater propensity towards fashion trends and brand loyalty, whereas male consumers might prioritize functionality and comfort. These differences necessitate a gender-sensitive approach to marketing, product design, and retail strategies, ensuring that the diverse needs and preferences of both male and female consumers are adequately addressed. Additionally, the increasing participation of women in the workforce and their growing economic independence have a profound impact on the



apparel market, driving demand for a wider range of clothing options that cater to both professional and personal needs.

The interplay of social media and digital marketing has revolutionized how youth in the NCR region interact with apparel brands. Today, the youth demographic is more connected, informed, and influential than ever before, utilizing digital platforms not only to make purchasing decisions but also to express their identities and preferences. Social media influencers, online reviews, and digital advertising play a pivotal role in shaping consumer perceptions and trends in the apparel industry. This digital landscape offers unparalleled opportunities for brands to engage with young consumers, offering personalized experiences that resonate with their individual preferences and values. However, it also presents challenges in terms of navigating the fast-paced nature of online trends and managing brand reputation in an increasingly transparent and critical digital environment.

The apparel industry in the NCR region of Haryana is navigating a complex web of demographic, economic, and digital factors that influence consumer behavior, particularly among the youth. As this demographic continues to evolve, so too must the strategies employed by marketers, advertisers, and policymakers. A nuanced understanding of the interplay between age, gender, occupation, income levels, and digital influence is essential for crafting targeted approaches that resonate with the diverse needs of the youth market. By embracing these complexities and adopting agile, consumer-centric strategies, stakeholders in the apparel industry can look forward to capturing the dynamic spirit of the youth demographic, driving innovation and growth in this vibrant market.

2. OBJECTIVES AND HYPOTHESIS

The primary objective of this study is to delve into the purchasing frequency of apparel products among the youth population in the NCR region of Haryana, aiming to uncover patterns and preferences that could guide strategic decisions for stakeholders in the apparel industry. This endeavor seeks to segment consumer behavior by age, thereby offering insights into the specific needs and preferences of different age groups within the youth demographic. Such segmentation is crucial for developing targeted marketing campaigns, optimizing product offerings, and enhancing customer engagement strategies.

Hypothesis Formulation

- **Null Hypothesis (H0):** There is no significant difference in the purchase frequency of apparel products between different age groups in the youth population of the NCR Region of Haryana. This hypothesis posits that age does not play a decisive role in determining how frequently individuals purchase apparel, suggesting that other factors may have a more uniform impact across age groups.
- **Alternative Hypothesis (H1):** There is a significant difference in the purchase frequency of apparel products between different age groups in the youth population of the NCR Region of Haryana. Contrary to the null hypothesis, this suggests that age significantly influences purchasing behavior, with different age cohorts showing distinct patterns in how often they buy apparel products.

The study employs descriptive and inferential statistical analyses, including ANOVA, to test these hypotheses, aiming to provide a comprehensive understanding of the underlying dynamics of apparel purchase frequency among the youth in the NCR region of Haryana. Through this analysis, the study seeks to offer actionable insights that could influence marketing strategies, product development, and policy formulation within the apparel sector.

3. METHODOLOGY

The methodology of this study is designed to comprehensively analyze the impact of age on the frequency of apparel purchases among the youth in the NCR region of Haryana. Employing a quantitative research approach, the study systematically collects data through structured surveys distributed to a diverse cross-section of the youth population within the specified region. The survey encompasses a series of questions aimed at capturing detailed information on respondents' age, gender, occupation, monthly income, and their apparel purchasing habits, including frequency and preferred modes of shopping. The sample size of 385 individuals is strategically chosen to ensure representativeness of the youth demographic in the NCR region, spanning various age groups, occupations, and income levels, thereby providing a broad perspective on consumer behavior patterns.



To analyze the collected data, descriptive statistics are first utilized to summarize the basic features of the dataset, presenting an overview of the purchase frequency across different age categories. This includes calculating means, standard deviations, and confidence intervals to describe the central tendency and dispersion of purchasing frequency within each age group. Subsequently, inferential statistics, specifically Analysis of Variance (ANOVA), are employed to test the study's hypotheses. The ANOVA technique is chosen for its efficacy in comparing means across multiple groups, in this case, the different age brackets of the youth population. This analysis helps in determining whether the observed differences in apparel purchase frequency among the age groups are statistically significant. The significance level is set at 0.05 to ascertain the probability of observing the results under the null hypothesis. The ANOVA test's outcomes, indicated by the F-statistic and the associated p-value, provide the basis for accepting or rejecting the null hypothesis, thus offering insights into the role age plays in influencing apparel purchasing behavior.

This methodological framework, combining both descriptive and inferential statistical analyses, enables a rigorous examination of the research question. It not only sheds light on the purchasing frequency patterns among the youth in the NCR region but also contributes to a deeper understanding of demographic impacts on consumer behavior in the apparel industry. The findings from this study are expected to offer valuable insights for marketers, advertisers, and policymakers, facilitating the development of targeted strategies to effectively engage with the youth demographic in the region.

4. DATA ANALYSIS

HYPOTHESIS

Null Hypothesis (H0): There is no significant difference in the purchase frequency of apparel products between different age groups in the youth population of NCR Region of Haryana.

Alternative Hypothesis (H1): There is a significant difference in the purchase frequency of apparel products between different age groups in the youth population of NCR Region of Haryana.

Table 4.1

Descriptives					
Purchase Frequency of Apparel Products					
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean
					Lower Bound
18-24	100	15.0000	.00000	.00000	15.0000
25-34	100	15.0400	.96316	.09632	14.8489
35-44	88	16.9545	1.15380	.12299	16.7101
45-54	64	19.0625	2.15196	.26900	18.5250
55 and above	33	23.6364	.48850	.08504	23.4631
Total	385	16.8727	2.80009	.14271	16.5921
Model 1	Fixed Effects		1.15513	.05887	16.7570
	Random Effects			1.36266	13.0894

The provided data presents descriptive statistics related to the purchase frequency of apparel products among different age groups, along with an overall total. The data is segmented into five age categories: 18-24, 25-34, 35-44, 45-54, and 55 and above.

For the 18-24 age group, there were 100 individuals surveyed, and the mean purchase frequency was exactly 15, with no standard deviation or standard error, indicating no variability in this group's responses. The 95% confidence interval for the mean ranged from 15 to 15.



Moving on to the 25-34 age group, also with 100 participants, the mean purchase frequency was 15.04, with a standard deviation of 0.96 and a standard error of 0.09632. The 95% confidence interval for the mean in this group ranged from 14.8489 to 15.2311.

In the 35-44 age group, comprising 88 respondents, the mean purchase frequency was 16.95, and the standard deviation was 1.15. The standard error was 0.12299, and the 95% confidence interval for the mean was between 16.7101 and 17.1989.

For the 45-54 age category, consisting of 64 individuals, the mean purchase frequency was 19.06, with a standard deviation of 2.15 and a standard error of 0.269. The 95% confidence interval for the mean spanned from 18.525 to 19.599.

Lastly, the 55 and above age group included 33 participants, and the mean purchase frequency was 23.64, with a small standard deviation of 0.49 and a standard error of 0.08504. The 95% confidence interval for the mean ranged from 23.4631 to 23.8097.

In the total dataset, which comprised 385 respondents, the overall mean purchase frequency for apparel products was 16.87, with a standard deviation of 2.80 and a standard error of 0.14271. The 95% confidence interval for the mean was 16.5921 to 17.1533.

Additionally, the model's fixed effects in the analysis contributed 1.15513 to the overall mean purchase frequency, with a standard error of 0.05887. The random effects accounted for 1.36266, indicating variability across the groups.

In summary, this descriptive analysis provides a detailed overview of the purchase frequency of apparel products among different age groups, highlighting variations in means, standard deviations, standard errors, and confidence intervals. It also mentions the contributions of fixed and random effects in the model. These statistics offer valuable insights into consumer behavior across age demographics in the context of apparel purchases.

Table 4.2

Descriptives					
Purchase Frequency of Apparel Products					
		95% Confidence Interval for Mean	Minimum	Maximum	Between-Component Variance
		Upper Bound			
18-24		15.0000	15.00	15.00	
25-34		15.2311	14.00	17.00	
35-44		17.1990	15.00	19.00	
45-54		19.6000	17.00	23.00	
55 and above		23.8096	23.00	24.00	
Total		17.1533	14.00	24.00	
Model	Fixed Effects	16.9885			
	Random Effects	20.6561			8.34267

The detailed description of the data regarding the purchase frequency of apparel products, including 95% confidence intervals for the mean, minimum and maximum values, and between-component variance:

The data presents a comprehensive overview of the purchase frequency of apparel products across different age



groups, as well as an overall total. Starting with the youngest age group (18-24), the mean purchase frequency was exactly 15, and there was no variability as indicated by the minimum and maximum values, both at 15. This suggests a consistent pattern of apparel purchase among individuals in this age bracket.

Moving to the 25-34 age group, the mean purchase frequency was 15.2311, indicating a slightly higher average frequency compared to the previous group. However, there was some variability, with the minimum and maximum values recorded at 14 and 17, respectively. The 95% confidence interval for the mean provided a reasonably confident estimate within the range of 14.00 to 17.00.

In the 35-44 age group, the mean purchase frequency increased to 17.1990, and there was more variation in responses, with the minimum and maximum values at 15 and 19, respectively. The 95% confidence interval spanned from 15.00 to 19.00, reflecting the increased variability in purchase behavior within this age group.

Individuals aged 45-54 had the highest mean purchase frequency at 19.6000, indicating a more frequent purchase pattern on average. However, this group also exhibited considerable variability, with minimum and maximum values of 17 and 23, respectively. The 95% confidence interval extended from 17.00 to 23.00, demonstrating substantial variability.

In contrast, the oldest age group, 55 and above, had a high mean purchase frequency of 23.8096, reflecting a more consistent pattern of apparel purchase among this demographic. The minimum and maximum values were relatively close, at 23 and 24, respectively, and the 95% confidence interval was narrow, spanning from 23.00 to 24.00.

When considering all age groups together, the overall mean purchase frequency for apparel products was 17.1533, with a wide range of individual purchase frequencies, from a minimum of 14 to a maximum of 24. The 95% confidence interval for the mean encompassed this broad range, highlighting the diversity of purchase behaviour in the entire dataset.

Additionally, the model effects, including fixed and random effects, provided insights into the factors influencing purchase behavior. The fixed effects contributed a mean value of 16.9885, indicating their impact on the overall purchase frequency. The random effects, with a value of 20.6561, pointed to significant variability among groups not explained by the fixed effects. The between-component variance of 8.34267 emphasized the extent of variation between different components of the model. These statistics collectively offer valuable insights for businesses and researchers seeking to understand and tailor their strategies to the nuances of apparel purchase behaviour across different age groups and the overall population.

Table 4.3

ANOVA					
Purchase Frequency of Apparel Products					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2503.719	4	625.930	469.097	.000
Within Groups	507.045	380	1.334		
Total	3010.764	384			

This statistical analysis is used to determine whether there are significant differences in means between the groups being compared. Let's break down the information in the table:



1. **Between Groups Analysis:** In the "Between Groups" section, the sum of squares (SS) is 2503.719. This represents the total variation in purchase frequency that can be attributed to differences between the groups. The degrees of freedom (df) for the between-groups analysis are 4, indicating that there are five groups (as mentioned earlier) minus one, which is used to calculate this statistic. The mean square (MS) is calculated by dividing the sum of squares by the degrees of freedom, resulting in 625.930.

The F-statistic is used to test the significance of differences between group means. In this case, the F-statistic is 469.097. This high F-value suggests that there are significant differences in purchase frequency among the age groups being studied. Finally, the "Sig." value (p-value) associated with the F-statistic is 0.000, which is typically less than the standard alpha level of 0.05. This extremely low p-value indicates that the differences between the groups are statistically significant, further supporting the idea that age group has a significant impact on purchase frequency.

2. **Within Groups Analysis:** In the "Within Groups" section, the sum of squares (SS) is 507.045. This represents the variation in purchase frequency that cannot be explained by differences between the groups and is often referred to as the "error" or "residual" variation. The degrees of freedom (df) for the within-groups analysis are 380, which is the total number of observations minus the total number of groups (384 - 4). The mean square (MS) is calculated as 1.334, which is the sum of squares divided by the degrees of freedom.
3. **Total Variability:** The "Total" row provides an overview of the total variability in the data. The total sum of squares (SS) is 3010.764, representing the total variation in purchase frequency across all observations. The degrees of freedom for the total variability are 384, which is the total number of observations minus one (384 - 1). No mean square or F-statistic is provided for the total variation because it's not used for hypothesis testing in ANOVA.

In summary, this ANOVA table shows that there are significant differences in the purchase frequency of apparel products across the five age groups. The high F-statistic and the very low p-value in the "Between Groups" section indicate that age group is a statistically significant factor in explaining the variability in purchase frequency. The "Within Groups" analysis accounts for the variation that is not explained by age group differences, which is a measure of the random variation or noise in the data. This ANOVA result provides important insights for businesses and researchers, suggesting that they should consider age group as a significant factor when designing marketing strategies or conducting further investigations into consumer behavior related to apparel purchases.

5. DISCUSSION

The analysis of the purchase frequency of apparel products among the youth in the NCR region of Haryana provides significant insights into consumer behavior, particularly highlighting the influence of age on purchasing patterns. The data, segmented into five distinct age groups, reveals a clear trend of increasing purchase frequency with age. Younger respondents, particularly those in the 18-24 age group, exhibited a uniform purchasing pattern, with a mean purchase frequency that indicates a relatively stable rate of apparel acquisition. As we move towards older age groups, a gradual increase in the mean purchase frequency is observed, with the most substantial purchasing activity noted among individuals aged 55 and above. This pattern suggests that as consumers age, their frequency of purchasing apparel products increases, potentially due to higher disposable income, changes in lifestyle, or a greater focus on personal appearance.

The statistical analysis, particularly the ANOVA test, plays a crucial role in substantiating the observed trends. With a significant F-statistic and a p-value of .000, the test unequivocally supports the alternative hypothesis, indicating that there are indeed significant differences in the purchase frequency of apparel products across different age groups. This finding underscores the importance of age as a determinant factor in consumer behavior within the apparel market. It also suggests that other demographic factors, such as gender, occupation, and income levels, while influential, may interact with age to shape purchasing habits. The increasing variability in purchase frequency and the between-component variance observed in older age groups hint at the complexity of consumer behavior, suggesting that with age, personal preferences, and lifestyle choices become more pronounced in determining purchasing patterns.



Implications and Strategic Insights

The implications of these findings are manifold for stakeholders in the apparel industry. For marketers and advertisers, understanding the nuanced relationship between age and apparel purchasing frequency offers a strategic advantage in tailoring marketing campaigns and product offerings. It highlights the necessity of segmenting marketing strategies to cater to the specific preferences and needs of different age groups. For instance, older consumers' higher purchase frequency and less variability in their purchasing patterns suggest a focus on quality, brand loyalty, and product consistency may be more effective in engaging this demographic. Conversely, younger consumers, with their uniform purchase frequency, may be more receptive to trends, promotions, and digital marketing efforts.

For policymakers and industry analysts, these insights contribute to a broader understanding of consumer behavior trends, aiding in the formulation of policies that promote sustainable consumption and support the economic viability of the apparel sector. The significant variance in purchasing behavior across age groups also highlights the potential for targeted policy interventions, such as promoting sustainable fashion among younger demographics or encouraging local apparel businesses to tailor their product lines to the preferences of older consumers.

6. CONCLUSION

The study's findings provide a compelling narrative on the impact of age on apparel purchasing frequency among the youth in the NCR region of Haryana. By revealing significant differences across age groups, the research not only challenges the null hypothesis but also opens avenues for deeper exploration into the factors driving these patterns. The strategic insights derived from this analysis hold the potential to reshape marketing strategies, product development, and policy formulation, aiming to align more closely with the diverse needs and preferences of consumers across different age brackets. As the apparel industry continues to evolve, such data-driven insights will be invaluable in navigating the complexities of consumer behavior, ensuring that stakeholders can effectively engage with their target demographics in meaningful and impactful ways.

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