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A Gender-Centric Comparative Analysis of Latent Variables Shaping Gen-Z Consumer Behaviour: Insight from an Exploratory Factor Analysis

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ABSTRACT

This study explores the latent variables influencing consumer behaviour in the Delhi-NCR region, with a particular focus on gender-based differences. Employing an exploratory descriptive research design, primary data were collected from 104 respondents through both online and offline questionnaires. The data were analyzed using Exploratory Factor Analysis (EFA) to identify underlying factors that affect consumer decision-making processes. The findings reveal distinct latent variables significantly influencing consumer behaviour and highlight notable differences between male and female consumers. Gender was found to moderate the impact of these latent variables, with male and female respondents exhibiting different purchasing patterns and responses to external influences such as marketing and social factors. The study offers valuable insights for businesses and marketers, suggesting the need for gender-specific strategies to effectively address the diverse preferences and behaviours of consumers in the region.

*Keyword***:** latent variable, exploratory factor, z generation, consumer behaviour.

1. INTRODUCTION

(Islam et al., 2024), Consumer behaviour is a way of preference decided by a myriad of factors, including physiological, psychological, and sociological elements. Psychological factors encompass cognitive, emotional, and social aspects that shape consumer decisions in digital environments. As well as internal psychological determinants and

external sociological influences such as culture and social class (Bujari, 2017). Customers differ greatly in their preferences and may prefer different attributes from the same product, service or market offering (Denizci Guillet and Kucukusta, 2016). (Venkatraman et al., 2012) Consumers' preferences for products or brands arise from the combination of many different factors. Some factors come from features of the product itself (e.g., price, durability), while others are attributes of consumers themselves (e.g., goals, attitudes, discretionary income). It is important to know about customer preference so that businesses can design their offerings to fit the preferences and expectations of customers. In particular, one study suggested that the influence of these values varied across situations (Nguyen et al., 2015). The results of this study have succeeded in measuring the perceived value of customers from various products such as clothing and durable goods. According to Aulia (2016), customers are expected to be satisfied if these all types of value dimensions are met.

Social-related value refers to the customer perspective that society is the source of value, which means the customers view society as the place where they can obtain some benefits through interaction with other people. These benefits can be seen from two basic needs perspectives, the need for acceptance and the need for compliments (Aulia et al., 2016). As explained by Maslow (1943), acceptance in society is part of a basic need (deficit need) where the failure of the product to meet this need will cause feelings of discomfort that lead to unfavourable attitudes and behaviour towards certain products. Culture refers to a set of values, ideas and symbols that people communicate with each other, explain and evaluate as members of a society (Maricic, 1993). When consumers want to buy a product, they tend to search for information on the website. However, more than 80% of customers leave the website without finding what they are looking for. So, people tend to ask for advice from the people they trust the most (friends or family), from social media (Khatib, 2016)

Personal-related value is closely related to the self-concept possessed by customers (Aulia et al., 2016). The self-concept in personal-related value is how they value themselves as a person. Sweeney and Soutar (2001) state that values include enjoyment, relaxation, feelings of pleasure, and pleasure and call them emotional or personal values.

Psychological The family directly affects the formation of values, attitudes, beliefs and behavior of individuals through: economic status, emotional support, child socialization and lifestyle (Maricic, 1993)

1.1. Generation Z

A demographic cohort is known as Generation Z, who are born between 1995 and 2010 (Dolot, 2018; Daeid, 2008), and Gen-Z people are identified as having internet access since a young age, and they are strongly affected by social media and recognize and use the power of technology (Williams, Page, Petrosky, & Hernandez, 2010). Among the FB users, most are in the 18-24 age category all are GenZ and most of those users use social media for brand research (Digital Global Overview, 2020) and social media is the future of commerce since it provides an easy way to connect millions of people to purchase and sell items in a fraction of a second (Wickramasinghe, 2020), In the Asian context, with the largest increase in Facebook audience, India is at the top of the Facebook reach rankings (Digital Global Overview, 2020). Compared to Millennials, Gen Z is more connected in learning and communication styles. Gen Z is more aware of health problems than previous generations (Mat Zain et al., 2021). To approach Generation Z, businesses need to know who they are, what they want and how they want. Research shows that Generation Z is a consumptive buyer who tends to spend money right away if they have a desire for a particular product. Generation Z has special reasons for shopping, especially online shopping, namely convenience, perceived lower prices, variety of products and time efficiency (Simangunsong, 2018). Purchase intention plays a major role in online consumer behaviour (Athapaththu & Kulathunga, 2018)

1.2. Purchase Decision

There are five steps in the customer purchase decision process. The first step is need recognition or problem recognition, the second is information search, the third step is comparison of alternatives, the fourth is final purchase, and the fifth step is post-purchase behaviour (Prasad et al., 2019). The consumer decision-making process can be described as the phases that consumers go through in making a final purchase decision (Hanaysha, 2018). Purchase decision involves an order of choices formed by the consumer before buying a product, which starts once the customer has a willingness to fulfil a need (Hanaysha, 2018). Also, this research reported that marketing managers should understand the customers' consumption process and the benefits of organizational products or services in their perceptions to understand consumers' purchasing decisions. The role of marketers in this phase arises when using advertising, personal selling, and packaging to generate recognition for the products or services they offer. The purchase

decision is influenced by various factors such as social, cultural, demographic, personal, economic, etc. (Jothi, 2015). Eventually, consumers evaluate alternatives and choose the brand that best suits them and satisfies their needs. According to Keller (2001), Purchase intention can be described as a key indicator to predict consumer behaviour (Phan & Mai, 2016).

1.3. Interrelation of all three factors in consumer behaviour

The interplay of psychological and social factors is also evident in the context of electronic commerce, where they significantly alter online consumer behaviour (Cetină et al., 2012). Interestingly, while traditional consumer behaviour theories have emphasized rational decision-making, recent empirical studies highlight the role of irrational and intuitive elements in consumer choices, suggesting a shift towards bounded rationality (Leonov, 2023). This is complemented by research advocating for a paradigm shift that views the decision-making process itself as an independent variable affecting outcomes like brand loyalty and post-purchase satisfaction (Ismail et al., 2024). Cultural factors, particularly in the context of social media, further illustrate the sociological impact on consumer behaviour, with cross-cultural studies revealing significant differences in consumer engagement and purchasing decisions (Shi, 2023). Empirical studies have also shown how individual psychological characteristics, such as personality traits and personal values, influence consumer decision-making strategies (Tkalych & Zakashanska, 2022). Moreover, the complex relationship between Xenocentrism, Animosity, and Product Judgment in Turkish consumers indicates that sociological narratives and identity assertion can affect purchasing decisions (Bozdağ & Durmuş, 2023). Neuroscience is proposed as a means to deepen understanding of consumer decision-making by considering physiological influences (Yoon et al., 2012), while the concept of Consumer Decision-Making Style as a basic consumer personality trait underscores the psychological dimension of consumer behaviour (Yasin, 2015). In summary, consumer behaviour is a complex phenomenon shaped by an interwoven fabric of physiological, psychological, and sociological factors. Psychological aspects range from cognitive processes to emotional triggers and social influences, while sociological factors include cultural norms and social structures. Physiological elements, though less frequently discussed, also play a role in consumer choices, as suggested by the potential applications of neuroscience in understanding consumer behaviour. These multifaceted influences underscore the need for a comprehensive approach to studying consumer behaviour, one that acknowledges the diverse and sometimes contradictory forces at play (Bozdağ & Durmuş,

2023; Bujari, 2017; Cetină et al., 2012; Islam et al., 2024; Ismail et al., 2024; Leonov, 2023; Shi, 2023; Tkalych & Zakashanska, 2022; Yasin, 2015; Yoon et al., 2012).

1.4. Gender based opinion

Prasad and Reddy (2007) proposed that demographic characteristics such as age, income, education, gender and location of residence affect the shopping behaviour. According to "Girrrl power and boyyy nature: the past, present, and future of consumer gender identity" by Kacen (2000), consumption has always been gendered. Gender has an important role in consumer behaviour because the differences between men and women about expectation, want, need, lifestyle, etc. reflect their consumption behaviour (Akturan, 2009:66). Beginning from the 1960s, gender captured the attention of scholars, and the influence of complex phenomena on consumers' behaviour was highlighted (Kolyesnikova, Dodd, & Wilcox, 2009). Attitude toward advanced technological products is not similar in terms of gender (Moghaddam, 2010). Focus on women has left the shopping behaviour of men largely under researched, despite the asserted dominance of masculine ideology in consumer research (Hirschman, 1993). Women are portrayed as nurturing, person-oriented and child-centred, whereas men are seen to be competitive, work-oriented and masculine (Alreck and Settle, 2002; Dholakia and Chiang, 2003). Rodgers and Harris (2003) found that in nearly every study exploring gender in shopping environments, males were typically reported to be the dominant online shoppers. According to Mitchell and Walsh (2004), males and females want different products, and they are likely to have different ways of liking and obtaining these. Because the differences between men and women about expectation, want, need, lifestyle, etc. reflect their consumption behaviours (Akturan, 2009:66). Women are considered as being warm, expressive, compassionate, and understanding (Broverman et al., 1972; Martin, 1987; Ruble, 1983; Williams & Best, 1990). People feel more positive toward women than men and also prefer to like women to men. (Eagly & Mladinic, 1989).

2. LITERATURE REVIEW

Sr. No	Author	Title	Findings – (Reason Identified For Change In Consumption Behaviour)	Variable Identified

1	Yadav R & Pathak G.S. (2016)	Intention To Purchase Organic Food Among Young Consumers: Evidence From A Developing Nation		Physical, Psychological
2	Kolyesnikova et al. (2009)	Gender As A Moderator Of Reciprocal Consumer Behaviour	Knowledge, Identity, And Involvement	Psychological, Physical
3	Cantaragiu R (2019)	The Impact Of Gender On Food Waste At The Consumer Level	Individuals' Attitudes And Behaviours	Psychological
4	DOUCÉ L et al. (2016)	What To Diffuse In A Gender-Specific Store? The Effect Of Male And Female Perfumes On Customer Value And Behaviour	Pleasant Shopping Experiences	Psychological, Physical
5	Radojka Kraljević (2017)	Gender Differences And Consumer Behaviour Of Millennials	Purchase Behaviour, Loyalty, Price Sensitivity, and Shopping Habits	Physical, Psychological
6	Pirlympou (2017)	A Critical Study: How Gender Determines Consumer Preferences	Price, Discount, and Brands	Psychological
7	Sanjay Hooda & Sandeep Aggarwal (2012)	Consumer Behaviour Towards E-Marketing: A Study Of Jaipur Consumers	Convenient & Time Saving, and Prefer Credit Card, Attribute, attribute, age, and attributes of online trading, Security Concerns, Gender	Physical, Psychological
8	Mitchell & Walsh (2004)	Gender Differences In German Consumer Decision-Making Styles	Satisfying, Enjoyment-Variety Seeking, Fashion-Sale Seeking, Time Restricted And Economy Seeking	Physical, Psychological
9	HART C. et al. (2005)	Shopping Experience Enjoyment: Impact On Customers' Repatronage Intentions, And Gender Influence	Enjoyment Of The Shopping Experience	Psychological,
10	ROBERT DAVIS et al. (2014)	How Gender Affects The Relationship Between Hedonic Shopping Motivation And Purchase Intentions?	Hedonic Shopping Motivation And Online Purchase Intentions	Psychological

11	Michael G. Luchs & Mooradian (2014)	Sex, Personality, And Sustainable Consumer Behaviour: Elucidating The Gender Effect	Demographical Factors- Age, Sex & Gender Psychological Motivation	Physical, Psychological
12	Katalin Eibel & Agnes Hofmeister-Toth (2013)	The Impact Of Values On Consumer Behaviour	Personal Goals And Values, Personal Life Style, Value Orientation As Consumers, Personal Purchasing And Consumer Behaviour, Political Objectives.	Psychological, Sociological
13.	K.Ramprabha (2017)	Consumer Shopping Behaviour And The Role Of Women In Shopping – A Literature Review	Shopping Behaviour As A Diverse Disciplines Combining Psychology, Sociology, Social Psychology, Cultural Anthropology, And Economics.	Psychological, Sociological
14.	Rakesh Kumar And Ramesh Kumar	Impact Of Various Demographic Factors On Consumer Behaviour – An Empirical Study Of Electronic Products In Rural Himachal (India)	Demographic Factors That Have An Effect On Consumer Behaviour Are: (1) Age (2) Gender (3) Marital Status (4) Financial Status (5) Family Background (6) Education (7) Occupation (8) Family Size	Physical, Psychological, Sociological

Table 1. The following studies have been found helpful to shortlist the variables suitable to explore further-

3. RESEARCH OBJECTIVES

The primary objective of this research is to explore the latent variables influencing consumer behaviour, with a focus on gender-based differences. This study aims to investigate how these variables impact

purchasing decisions among male and female consumers in the Delhi-NCR region. Additionally, the research seeks to provide insights into the moderating role of gender in shaping consumer responses to external influences, such as marketing and social factors. The key focus of this research is-

- To identify the key latent variables influencing consumer behaviour in the Delhi-NCR region through Exploratory Factor Analysis (EFA).
- To analyze the impact of the identified latent variables on different aspects of consumer decision-making, such as purchasing preferences and brand loyalty.
- To assess the role of gender in moderating the influence of latent variables, determining whether male and female consumers are affected differently by these underlying factors.
- To examine the role of gender in shaping consumer behaviour, identifying significant differences in purchasing patterns and preferences between male and female consumers.
- To analyze how gender moderates the impact of latent variables on consumer decision-making processes, exploring whether these variables influence male and female consumers differently.
- To investigate gender-based differences in response to external influences, such as marketing strategies and social factors, and how they affect consumer behaviour in the Delhi-NCR region.

For this purpose, the following hypotheses have been framed with this research study-

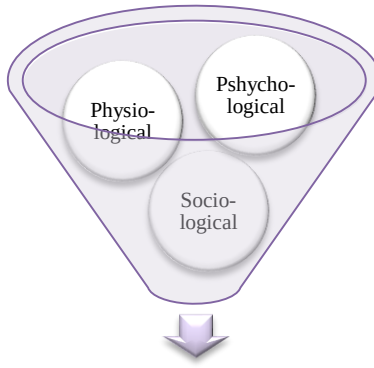
- H_o1: There are no distinct latent variables influencing consumer behaviour in the Delhi-NCR region.
- H_o2: There is no significant gender-based difference in the latent variables impacting consumer behaviour.
- H_o3: There is no significant gender-based difference in the psychological variables impacting consumer behaviour.
- H_o4: There is no significant gender-based difference in the physiological variables impacting consumer behaviour.
- H_o5: There is no significant gender-based difference in the sociological variables impacting consumer behaviour.

4. RESEARCH METHODOLOGY

This study employs an exploratory descriptive research design, using both online and offline questionnaires to collect primary data from 104

respondents in the Delhi-NCR region, with a focus on identifying gender-based differences in factors impacting consumer behaviour. A non-probability convenience sampling method was used to select participants based on their availability and willingness to participate. Data were gathered through structured questionnaires containing both closed-ended questions for quantitative analysis and a few open-ended questions for qualitative insights. The mixed-mode of data collection allowed for a diverse and inclusive sample, while ensuring ethical considerations like confidentiality and informed consent were maintained. The collected data were analyzed using Exploratory Factor Analysis (EFA) to identify latent variables, with a specific focus on understanding how these variables differ across genders. The data's suitability was assessed through the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity, followed by Principal Component Analysis (PCA) and Varimax rotation to extract and interpret factors. The analysis revealed key underlying patterns and highlighted distinct gender-based differences in the factors influencing consumer behaviour, offering deeper insights into the gender dynamics at play in consumer decision-making processes.

Research Model:



5. DATA ANALYSIS AND INTERPRETATION

In an attempt to identify latent variables influencing customer behaviour, the research employs Rotated Factor Analysis. Three major factors have been identified to be relevant when assessing consumer behaviour through this strategy; these factors in tandem contributed for roughly

64% of the total variation. Each of the variables were rotated so as to identify three key variables with an eigenvalue less than 0.5, and the variation was subsequently calculated using Principal Component Analysis (PCA). The aforementioned factors are crucial for understanding underlying trends and patterns in consumer preferences. The analysis underscores how essential these invisible factors are in determining decision-making made by consumers. In conjunction with strengthening our comprehension of consumer behaviour, this methodological approach offers a sturdy basis for subsequent studies in this area.

Table 2

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	7.773	48.583	48.583	7.773	48.583	48.583	4.462	27.887	27.887
2	1.295	8.096	56.679	1.295	8.096	56.679	3.097	19.356	47.243
3	1.174	7.337	64.015	1.174	7.337	64.015	2.684	16.773	64.015
4	.902	5.640	69.656						
5	.813	5.080	74.736						
6	.621	3.878	78.614						
7	.564	3.527	82.141						
8	.491	3.069	85.210						
9	.435	2.716	87.927						

10	.397	2.484	90.410						
11	.368	2.302	92.713						
12	.329	2.057	94.770						
13	.260	1.626	96.396						
14	.233	1.458	97.854						
15	.194	1.213	99.067						
16	.149	.933	100.000						
Extraction Method: Principal Component Analysis.									

The table exhibits an overview of a Principal Component Analysis (PCA) applied to adjust for the total variance in the dataset pertaining to consumer behaviour. After rotation, the primary component's contribution shrinks to 27.887% from the original eigenvalue of 7.773, thereby accounting for 48.583% of the variability. Initially, the second factor covers an additional 8.096% of the variability; post-rotation, this expands to 19.356%. Prior to and following the rotation, the third component's contribution to the variation is 7.337% and 16.773%, correspondingly. Combined together, all three of these factors constitute 64.015% of the variation in the data, identifying the key factors impacting the buying decisions of consumers. Despite their eigenvalues having less than 1, component four through sixteen have no significant impact on the framework as they contribute barely anything to the explained variance. By dispersing the variation among the three fundamental parts, the rotation method optimises the factor structure.

Table 1

Rotated Component Matrix[a]			
	Component		
	1	2	3
Physiological Factors -			
I like to purchase only those products that are non-allergic to my skin.	.768		
Do I Prefer family values	.726		

I like to acknowledge the expiry details before usage of the product.	.718		
I like to follow all the cautions provided for the product.	.714		
I like to use the product which suits my skin tone and skin type.	.694		
I like to collect information related to my product about its utility.	.694		
I like to spend time for finding out best option suiting my demands.	.673		
Utility of the product likely have impact on me while purchasing most of the products.	.531		
Psychological Factors -			
I like to choose the product which promotes the cultural ethnicity.		.868	
I like to purchase those products which are less harmful for environment		.676	
I like to choose that product which is culturally acceptable.		.613	
I like to choose the product which creates a positive value to the society.		.497	.491
Social Factors-			
I like to afford more for my choice.			.799
I prefer to choose the product that proves to be more prone to community engagement.			.690
I like to purchase only those products which are more prone to net zero environmental degradation.			.572
I like to purchase only those products which supports moral value of the society.			.548
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 6 iterations.			

After Varimax rotation with Kaiser Normalisation, the Rotated Component Matrix demonstrates the manner in which the variables get loaded onto three distinct components. Personal care and utilitarian inclinations play a major contribution in the first component, environmental and cultural variables serve a role in the second, and ethical guidelines and societal norms perform a role in the third. It has recently become easier to determine the way the variables are organised together and to fully understand the underlying causes impacting customer behaviour because to the rotation.

Table 4

Communalities		
	Initial	Extraction
Do I Prefer family values	1.000	.612
I like to spend time for finding out best option suiting my demands.	1.000	.672

I like to afford more for my choice.	1.000	.669
I like to collect information related to my product about its utility.	1.000	.618
Utility of the product likely have impact on me while purchasing most of the products.	1.000	.545
I like to purchase only those products that are non-allergic to my skin.	1.000	.683
I like to use the product which suits my skin tone and skin type.	1.000	.628
I like to acknowledge the expiry details before usage of the product.	1.000	.693
I like to follow all the cautions provided for the product.	1.000	.672
I like to choose the product which creates a positive value to the society.	1.000	.622
I prefer to choose the product that proves to be more prone to community engagement.	1.000	.665
I like to choose that product which is culturally acceptable.	1.000	.510
I like to choose the product which promotes the cultural ethinicity.	1.000	.780
I like to purchase those products which are less harmful for environment	1.000	.660
I like to purchase only those products which are more prone to net zero environmental degradation.	1.000	.595
I like to purchase only those products which supports moral value of the society.	1.000	.618
Extraction Method: Principal Component Analysis.		

The Communalities list reveals the percentage of variability in each factor which follows Principal Component Analysis (PCA) and is further clarified by the retrieved components. The communalities prior to extraction are presented in the "Initial" column. The very first communality of each variable is 1.000, indicating that all of its variance has been taken into consideration before the factor extraction mechanism takes place. The column entitled "Extraction" depicts the communalities resulting from filtering the factors. This demonstrates the percentage for each variable's variance that can be ascribed to the components that were kept. Once the factors have been discovered, the communalities demonstrate the degree to which which the factors contribute to the variance of each variable.

Significant relationships with the variables extracted are apparent in the fact that, for instance, 61.2% of the variation in "Do I Prefer family values" and 67.2% of the variability in "I like to spend time finding the best option suiting my demands" has been explained by the factors. Similarly, 68.3% of the discrepancy of "I like to purchase only those products that are non-allergic to my skin" can be clarified, highlighting the worth of this variable in the analysis. Additional variables that exhibit

a high degree of variability accounted are "I like to acknowledge the expiry details before usage of the product" (69.3%) and "I like to choose the product which promotes cultural ethnicity" (78.0%), underscoring their significance in the research.

Dynamics like "I like to choose that product which is culturally acceptable" (51.0%), which are accompanying lesser explained variance, however offer an important contribution to the final analysis. Relative to each of the original variables, the extraction communalities show how effectively the factors taken out of the PCA explain variance. Lower values imply a less significant representation of the variable, whereas higher values show that the variable is well-represented by the extracted components. Each variable's contribution to and explanation of the underlying elements influencing consumer behaviour is succinctly summarised in the table.

Table 2

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.893
Bartlett's Test of Sphericity	Approx. Chi-Square	949.918
	df	120
	Sig.	.000

Two significant statistics included in the KMO and Bartlett's Test table are used to figure out whether or not the data are acceptable for factor analysis:

- The Kaiser-Meyer-Olkin (KMO) Sampling Adequacy Measure Based on the KMO scale, the score of 0.893 is considered “great". The substantial amount suggests that factor analysis is feasible since the variables in the dataset have significant shared variance. Stated alternatively, the data is ideally suited for identifying underlying reasons.
- Bartlett's Test of Sphericity: This test evaluates if the correlation matrix varies substantially from an identity matrix, which suggests no relationship between the variables. A Chi-Square value of 949.918 with 120 degrees of freedom (df) and a significance level (Sig.) of 0.000 was extracted from the test. The associations amongst the variables are sufficiently powerful for factor analysis if the significance value is below 0.05. It indicates the factors are

appropriate to perform factor extraction since they have an identifiable framework, and the data is not random.

5.2 Discussion

In general, Bartlett's Test validates that the relationships between factors qualify for factor analysis, and the coefficient of KMO suggests the sample meets the requirements for factor analysis. To explore the implicit factors influencing customer behaviour, the process begins by performing a Rotated Factor Analysis. The three key elements that altogether constitute 64% of the overall variation in the data have been highlighted in the Total Variance Explained table, underscoring their significance in interpreting consumer behaviour. All of these factors are further delineated by the Rotated Component Matrix, which splits components into three distinct aspects: communal ethical standards, ethnic and ecological considerations, and personal utilitarian preferences. Interpreting the fundamental structures becomes easy as a consequence of this rotation method, thus optimising the factors' interpretability. Each variable's level of representation by the derived aspects can be observed in the Communalities table. Significant associations with the extracted elements are demonstrated by the overwhelming majority of factors' substantial proportion of variance addressed. This underscores the significance of these variables in regulating the buying habits of consumers. The data's validity and applicability for factor analysis are verified by the KMO and Bartlett's Test results. The factors seem to share significant variance, as demonstrated by their elevated KMO value of 0.893. Furthermore, the findings of Bartlett's Test of Sphericity exhibit significant correlations across the variables, signifying the suitability of the data for factor extraction.

In short, the research competently identifies and illustrates the major factors influencing consumer behaviours, supplemented by persistent statistical indicators that authenticate the precision of the findings.

Chi-Square Test

The Chi-Square analysis compares the observed frequencies in a contingency table against the expected patterns, assuming the null hypothesis of no relationship with the objective to figure out whether or not there is indeed a significant relationship between the categories of variables. The distinction between the two frequencies is measured by the Pearson chi-square testing statistic, and the degree of significance of

the association is indicated by the p-value. Furthermore, the test integrates Fisher's Exact Test for precise significance in minuscule datasets, the Likelihood Ratio analysis as a last resort, and the Continuity Correction for small sample sizes. The Linear-by-Linear Association test additionally examines trends among ordinal variables. Once taken together, these methods assist in figuring out whether there is a statistically significant correlation among the variables.

Table 6

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Latent Factors-3 * what is your gender	92	88.5%	12	11.5%	104	100.0%

Latent Factors-3 * what is your gender Cross tabulation

Count

		what is your gender		Total
		Male	Female	
Latent Factors-3	.00	36	43	79
	1.00	10	3	13
Total		46	46	92

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.389[a]	1	.036		
Continuity Correction[b]	3.225	1	.073		
Likelihood Ratio	4.598	1	.032		
Fisher's Exact Test				.069	.035
Linear-by-Linear Association	4.342	1	.037		
N of Valid Cases	92				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.50.

b. Computed only for a 2x2 table

SPSS Analysis

The outcomes of the study focusing on the association between gender and the third latent component, "Latent Factors-3," are highlighted in the table. Although 11.5% of the 104 cases were found insufficient, only 92 of them were deemed suitable for this study. From the valid cases, the cross tabulation reveals that 36 men and 43 females are classified as having "Latent Factors-3 = 0.00," whilst 10 males and 3 females are categorised as having "Latent Factors-3 = 1.00."

Relying on the Chi-Square tests, it shows an elevated association between gender and "Latent Factors-3." The association between these variables is highly significant, as demonstrated by the Pearson Chi-Square score of 4.389 with 1 degree of freedom and a p-value of 0.036. The p-value of 0.032 computed from the Likelihood Ratio test validates this result likewise. The significant correlation is further supported by Fisher's Exact Test, indicating a 1-sided p-value of 0.035, contradicting the Continuity Correction's p-value of 0.073, which reflects not as much relevance. Moreover, the Linear-by-Linear Association test reveals a p-value of 0.037, establishing the existence of an intriguing linear correlation between gender and "Latent Factors-3." Taking everything considered, these outcomes indicate that people's compatibility with the third latent factor is strongly determined by their gender.

Table 5.2.3) Physiological Factor

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
latent factors * what is your gender	99	95.2%	5	4.8%	104	100.0%

latent factors * what is your gender Cross tabulation

Count

	what is your gender		Total
	Male	Female	

latent factors	.00	39	47	86
	1.00	12	1	13
Total		51	48	99

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.970[a]	1	.002		
Continuity Correction[b]	8.179	1	.004		
Likelihood Ratio	11.625	1	.001		
Fisher's Exact Test				.002	.001
Linear-by-Linear Association	9.869	1	.002		
N of Valid Cases	99				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.30.

b. Computed only for a 2x2 table

A quick summary of research conducted on the association between gender and the physiological latent variables is provided in the table. 99 of the overall 104 cases—with 4.8% of the data missing—are fit for this study. 38 males and 47 females are identified as having "latent factors =

0.00," corresponding to the cross tabulation, whereas 12 men and only one woman are categorised as having "latent factors = 1.00."

Gender is significantly correlated with the physiological implicit factors, in accordance to the Chi-Square tests. A consistent link can be observed by the Pearson Chi-Square statistic of 9.970 with 1 degree of freedom and a p-value of 0.002, further backed by the Likelihood Ratio test, which has a p-value of 0.001. With a p-value of 0.004, which is slightly higher yet nonetheless substantial, the Continuity Correction is likewise visible. Considering both 2-sided and 1-sided p-values of 0.002 and 0.001, respectively, Fisher's Exact Test validates the significance of the results. The substantial relationship has been further verified by the Linear-by-Linear association test, which gives a p-value of 0.002. The overall outcomes suggest that the physiological subconscious factors are significantly impacted by gender.

Table 5.2.4) Sociological Factors

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Latent factors-2 * What is your gender	88	84.6%	16	15.4%	104	100.0%

Latent factors-2 * what is your gender Cross tabulation

Count

		What is your gender		Total
		Male	Female	
Latent factors-2	.00	39	38	77
	1.00	7	4	11
Total		46	42	88

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.651[a]	1	.420		
Continuity Correction	.234	1	.628		
Likelihood Ratio	.660	1	.417		
Fisher's Exact Test				.526	.316
Linear-by-Linear Association	.643	1	.423		
N of Valid Cases	88				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.25.					
b. Computed only for a 2x2 table					

SPSS Analysis

The analysis of the correlation between gender and underlying sociological attributes is illustrated in the table. 88 of the 104 events in total have been found acceptable for study, leaving 15.4% of the data incomplete. A cross-tabulation suggests that 39 males and 38 females have been categorised for having "Latent factors-2 = 0.00," while 4 males and 7 females are classified for having "Latent factors-2 = 1.00."

The findings of the Chi-Square test reveal that there is no significant association across sociological implicit components and gender. There seems to be no statistically significant link, as demonstrated by the p-value of 0.420 and the Pearson Chi-Square value of 0.651 using 1 degree of freedom. Further evidence for the absence of significance derives from the Continuity Correction value of 0.234, having a p-value of 0.628.

Gender has no significant impact on sociological latent components, as proven by the p-values of 0.417 resulting from the Likelihood Ratio test, 0.526 (2-sided) and 0.316 (1-sided) by Fisher's Exact Test. In conclusion, a p-value of 0.423 for the Linear-by-Linear correlation testing simultaneously confirms a lack of significant association. Having been considered, the outcomes reveal an absence of a noteworthy impact of gender on the sociological latent aspects in this dataset.

6. DISCUSSION:

Divergent associations with gender are identified once three distinct latent factors—psychological, physiological, and sociological—are explored. The chi-square test reveals that there exist a significant association among the psychological aspects. Males and females vary in their responses, corresponding to the Pearson Chi-Square score of 4.389 ($p = 0.036$), which demonstrates that sexual orientation strongly affects how individuals respond to these psychological aspects. In the same way, there is a substantial correlation between the physiological parameters and gender. With a Likelihood Ratio of 11.625 ($p = 0.001$) and a Pearson Chi-Square value of 9.970 ($p = 0.002$), the chi-square tests establish a noteworthy connection, confirming that gender exerts a significant effect on physiological parameters. It additionally indicates that there might be significant variations by gender in the perception or relevance of physiological settings. The sociological variables, on the contrary, show no apparent association with gender. The Pearson Chi-Square value of 0.651 ($p = 0.420$) and various other tests, including Fisher's Exact Test ($p = 0.526$), reveal no obvious gender based difference. The chi-square tests for sociological variables offer insignificant outcomes. It indicates that social variables in this dataset, regardless of gender, are equally crucial.

In the end, the research results suggest that gender has a substantial bearing on physiological and psychological factors, yet not on sociological aspects. While investigating the consequences of gender in buying habits or additional pertinent domains, initiatives or assessments ought to consider the nuances into consideration. This distinction points out numerous ways in which gender might impact various aspects of latent factors.

6.1 Practical Implication:

The findings from the analysis suggest several practical implications. Companies can tailor their marketing strategies to address significant

gender differences observed in psychological and physiological factors, allowing for more targeted and effective campaigns. Product development should also consider these gender-specific needs, potentially leading to gender-sensitive products that better meet consumer preferences. Insights into gender-related consumer behaviour can guide personalized experiences, while inclusive policies in sectors like healthcare and education can be developed based on these findings. Market segmentation strategies may need to shift focus from gender alone to include other demographic or psychographic factors, given the non-significant impact of sociological factors. Communication strategies should be adjusted to resonate with gender-specific concerns, enhancing engagement. Additionally, training employees to recognize and address these gender differences can improve customer interactions. Finally, these results underline the importance of further research into how various factors influence consumer behaviour, leading to more nuanced and effective strategies in diverse fields.

6.2. Future Implications:

The findings from the analysis suggest several future implications. Firstly, future research should explore the underlying reasons behind the significant gender differences in psychological and physiological factors. This could provide deeper insights into how these differences shape consumer behaviour and preferences, informing more effective marketing and product development strategies. Additionally, the lack of significant impact of gender on sociological factors indicates a need to investigate other demographic or psychographic variables that might influence these factors. This could lead to more comprehensive market segmentation and targeted interventions. Future studies could also examine longitudinal changes in gender-related factors, assessing how evolving social norms and values influence consumer behaviour over time. This would help in adapting strategies to changing trends and consumer expectations. Moreover, integrating these findings into broader research on intersectionality could enhance understanding of how multiple factors, including but not limited to gender, interact to influence consumer behaviour. This approach could provide a more nuanced perspective on diverse consumer needs and preferences.

Finally, the practical applications of these insights should be continuously evaluated and refined based on ongoing research and emerging trends. This iterative process will ensure that strategies remain relevant and effective in addressing the evolving landscape of consumer behaviour

6.3 Suggestions

To effectively leverage the insights from the analysis, several recommendations are crucial. First, companies should develop targeted marketing and product strategies that address the significant gender differences observed in psychological and physiological factors. Tailoring advertisements and product features to gender-specific preferences can enhance customer satisfaction and engagement. Additionally, personalizing consumer experiences based on these insights will improve relevance and connection with diverse audiences. Product design should incorporate gender-specific considerations to ensure inclusivity and meet varying needs. Given the lack of significant gender impact on sociological factors, it is important to explore other demographic and psychographic variables to gain a more comprehensive understanding. Communication strategies should be adapted to reflect gender-specific values and concerns, ensuring effective messaging. In sectors like healthcare and education, inclusive policies that address gender-specific needs should be formulated. Investing in employee training to recognize and address gender differences can enhance service quality. Continuous monitoring and adjustment of strategies based on feedback and emerging trends will keep approaches relevant. Exploring how gender intersects with other factors will provide deeper insights into consumer behaviour. Finally, supporting further research into various factors influencing consumer behaviour will refine strategies and adapt to evolving trends.

6.4 Limitation

The analysis of latent factors in relation to gender has several limitations that should be acknowledged. First, the study relies on cross-sectional data, which provides a snapshot of the relationship between gender and latent factors at a single point in time. This approach does not account for changes in attitudes or behaviours over time. Second, the sample size and demographic composition may limit the generalizability of the findings. With 104 cases and certain percentages of missing data, the results might not fully represent broader populations or diverse groups. Additionally, the study's focus on gender as the primary variable of interest may overlook other influential factors, such as socioeconomic status, cultural background, or individual psychographic characteristics. This narrow focus might not capture the full complexity of consumer behaviour. The use of self-reported data also introduces potential biases, as participants might provide socially desirable responses rather than their true attitudes or behaviours. Furthermore, the limitations in statistical power, particularly with smaller subgroups, may affect the

robustness of the results. The non-significant findings for sociological factors, for example, could be due to insufficient sample sizes or variability within the data. Lastly, the analysis assumes linear relationships and does not explore potential non-linear interactions or moderating effects, which could provide a deeper understanding of the relationships between gender and latent factors. Addressing these limitations in future research through longitudinal studies, larger and more diverse samples, and a broader range of influencing factors could provide more comprehensive insights and enhance the generalizability of the findings.

7. CONCLUSION

In summary, the analysis reveals that gender significantly impacts psychological and physiological latent factors, influencing consumer behaviour in these areas. However, no significant gender effect is observed on sociological factors. This highlights the need for targeted strategies in marketing and product development that address gender-specific needs, while also recognizing that sociological factors may require different approaches. Future research should explore additional demographic variables and longitudinal changes to gain a more comprehensive understanding of consumer behaviour.

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