

An Empirical Analysis of Green Market Dynamics as Per the Urban Demand in Delhi NCR

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Abstract

The purpose of this study is to analyse consumer awareness, major motivational drivers, and demographic aspects influencing green product demand in urban Delhi NCR, which is rapidly urbanizing. The research design used a mixed-methods research approach and involved primary and secondary data collection from 200 urban respondents using stratified random sampling. Quantitative analyses employed SPSS where major statistical tools like mean, standard deviation, correlation, regression, and ANOVA were conducted. The study's results show consumers living in Delhi NCR are moderately aware (mean=17.58) and positively perceived green products (mean=17.82). An investigation on consumer awareness and perceptions towards green products resulted in a statistically significant but weak positive correlation of ($r = 0.173$, $p < .05$). Furthermore, major drivers of demand like environmental concern, price sensitivity, availability and brand trust was statistically significance ($p = .005$) but explained little variance ($R^2 = 0.001$) attributable to environmental products. Age and gender were more dominant demographic variables but likely due to significant differences in demand yielding ANOVA results (age: $F = 2.519$, $p = .043$; gender: $F = 4.007$, $p = .047$). The study indicates that while the green market within Delhi NCR is influenced by a number of factors, demographic orientation and awareness building are leading aspects to enhance sustainable urban consumption.

Keywords: Green Market Dynamics, Urban Consumer Demand, Environmental Awareness, Sustainable Consumption, Delhi NCR.

1. Introduction

Over the last several decades, environmental sustainability has become an important element in urban policy, industry strategy and consumer preference globally. As cities grow and people become more environmentally committed, the green market – the production of products and services with minimal environmental footprint – is starting to flourish. Urban consumption has historically been dictated by price, convenience, and consumption (Shmelev, & Shmeleva, 2018). Today, ecologically conscientious consumption is becoming an activist response to the traditional consumer logic and market relationships. Urban consumer behavior in this context is changing, and existing market logic is being redefined as consumers increasingly consider their ecological position. The urban consumers of the 21st century are informed, empowered, and environmentally aware. A confluence of increasing educational levels, ubiquitous environmental education, and new legislation are ushering in an urban green awakening. Urban dwellers in both developed and developing countries are becoming increasingly aware of the public health and social and economic advantages that come with sustainable consumption (White, K., et al, 2019). Urban centers are typified as sites of

innovation, consumption, and policy experimentation, making them robust environments for advancing sustainability, and modeling green markets. The green market is transitioning from the fringes into the mainstream, and no longer is it a sub-field of production and consumption but a dominant construct from biodegradable packages to renewable energy, to organic food, to sustainable fashion, altering production processes, marketing practices and consumer expectations (Fuenfschilling et al., 2019).

The concept of green market dynamics refers to a myriad of economic and behavioral phenomena including shifts in demand, pricing, regulatory policies, supply chain management, and innovation strategies that revolve around sustainability. However, unlike traditional markets, green market dynamics involve economic phenomena that extend beyond the traditional Robinson Crusoe supply-demand framework for isolated goods. Many variables such as environmental externalities, whole-of-lifecycle costs, environmental branding, carbon-footprint, and the circular economy shape not just the price or quality of products (whether goods or services) but also the value of those products, and the purchase desirability in the short- and long-term (Kirchoff et al., 2011). All of these variables interact in an urban setting, which typically involves various issues such as infrastructure, regulatory regimes, civic engagement, public-private partnerships, and demographic developments. Therefore, the green market environment is a fertile terrain for empirical analysis, yet one that defies isolationist attempts to measure a simple environment-purchase-decision-outcome model (Fraj, et al., 2013). The environmental and clean energy activities of green markets have led to a meteoric rise in investment volume, with a total of USD 496 billion in the first half of 2021, exceeding that of any market in the past decade. Investing in the green markets is essentially attributed to the projects that reduce carbon emissions, encourage renewable resources, minimize the use of fossil fuels, and adopt the best possible ways to build a clean eco-system with net-zero emissions (Naeem et al.,2022).

Urban demand describes how people living in cities collectively consume or takes action as urban residents depending on income, cultural values, technology exposure and social norms. Urban demand is particularly important for green markets for three reasons: First, urban consumers are often better exposed to the environmental conversation, whether through media, education, or community. Second, urban areas provide more access to 'green' options - such as public transport, recycling, organic stores, and eco-startups -that allow for more sustainable consumption. Third, people living in cities, especially those with higher income levels, are often willing to spend a bit more money on products that are perceived to be environmentally responsible (Lyons, et al.,2018).

Although the development of green markets can be associated with consumer behavior, the role of governments, rules, and institutional mechanisms is also significant on the demand and supply side of the green market. Urban governance structures, including municipalities, urban development authorities and environmental regulatory bodies influence green markets through public policy support (e.g. incentives), regulations (e.g. planning policies), infrastructure investment, and by raising social awareness. Some local governments in cities have green procurement and green certification policies and carbon trading schemes. Additionally, there are international and national environmental commitments, such as the Paris Agreement, Sustainable Development Goals (SDGs), and Extended Producer Responsibility (EPR) regulations, which eventually flow all the way down to the urban level, setting a regulatory framework conducive to the emergence of green markets and entrepreneurship (Yuan et al.,2021). It is broadly possible to create a legal and institutional environment which enables green entrepreneurship and limits or reduces wastefulness, improves energy efficiency and encourages circular economy-based solutions. The alignment of top-down policies and bottom-up consumer activism is an essential element for successful green market features in urban policy contexts (Homsy et al., 2019).

Technology has emerged as an enabling force behind the growth of green markets in urban areas. From online platforms that support consumers pursuing zero-waste lifestyles to utilizing blockchain-enabled transparency in supply chains and AI-managed carbon accounts, technology is accelerating green transformation across urban sectors. Smart city elements built on IoT, and big data analytics enable urban planners and businesses to create sustainable systems, such as with traffic management systems, conservation of water resources, logistics in e-commerce, and integrated

renewable energy resources (Viitanen, & Kingston, 2014). Urban demand and technology coexist through a feedback loop where consumer preferences exert pressure on the pace of innovation, while innovation then drives green products' accessibility, affordability, and attractiveness. This feedback loop also reflects the role of education, training, and digital literacy in building green behavior, leading to the need for city-based public awareness campaigns and community-based sustainable initiatives (Priem et al., 2012).

The aim of the study is to empirically examine the changing state of the green market in response to urban consumer demand in the Delhi NCR area. With the need for urban centers to emerge as the focal point of sustainability movements, this research looks into how increased environmental concern, technology development, social change, and institutional structures influence consumer behavior in relation to green products. This study contributes by providing a multidimensional view of the urban green market development, detailing the major demand forces, and illustrating the interrelationship among consumer awareness, regulatory frameworks, technology, and sustainable consumption. By focusing on the major urban center of Delhi NCR, the research can provide local information and recommendations for both policymaking and marketing approaches in which the urban poverty environment can develop better environmental behaviors.

The paper is divided into eight sections. Section 1 comprises the introduction of the document. A literature review and hypothesis comprised under section 2 of the paper. A research methodology is examined in Section 3. The results & findings are discussed in Section 4. The discussion has been provided in detail in section 5. Section 6 contains conclusions, Section 7 has implications, and limitations, and scope for future research are covered in Section 8. References have finally been included.

2. Review of Literature and Hypothesis

The process of urbanization and environmental damage which many urban centers are facing has created a new consumer class that is becoming increasingly interested in environmentally responsible products. Green market dynamics relate to the various interactions between consumer awareness and perceptions, socio-demographic factors and their influence on the market forces around the demand for green products in cities (Witek, & Kuzniar, 2021).

2.1 Awareness and Perception of Urban Consumers

Consumer awareness and perception are widely understood to be key factors in the adoption process for green products, especially in urban markets where programs of education, media exposure, and socio-environmental concerns are stronger Savale, T. K., et al., (2023). Ma, H., et al., (2023) stated that urban consumers are more likely to adopt green consumption behaviours because of a higher level of exposure to environmental education, the availability of eco-friendly alternatives, and a progressive socio-economic and cultural context creating conditions for sustainability-oriented consumption patterns to flourish in cities.

Meyfroidt, P. (2013) studied that urban consumers have cognitively identified much of the changed behavior as a direct result of their everyday interactions with environmental degradation and when they experience that recognition, it leads to engagement. Additionally, Ottman, J. (2017) urban centers also have greater visibility and influence of green certifications and product labeling, as well as eco branding, especially through digital marketing strategies targeting urban consumers' pro-environmental intentions. In the context of cities in India, many authors highlight both the increase in awareness of green products as well as a more positive attitude towards them. Francis, A., & Sarangi, G. K. (2022) studied consumers in Tier-I cities and found that consumers are showing more interest in eco-friendly products, driven largely by an increase in their environmental literacy and concern for their own health, as well as the health of the communities they inhabit. The study found that the consumer was not only expressing a preference for green products but also tended to view these as representing higher quality, safety and ethical responsibility. A similar conclusion also emerged from Guarin, A., & Knorrinda, P. (2014) assessed urban middle-class consumers in India are developing an increasing preference for sustainable consumption as a broader lifestyle choice in response to global environmental narratives.

Moreover Zebardast, L., & Radaei, M. (2022) increases in urban consumer knowledge of environmental crises through media coverage has had a significant impact on consumer behavior, resulting in urban consumers purchasing more eco-friendly products. Furthermore, Chen, M. Y., & Chiu, C. I. (2016) providing more importance to perceived product effectiveness, the credibility of green claims, and perceived consumer effectiveness were central to generating positive attitudes towards green products. When urban consumers feel that their purchasing decisions have an impact on environmental issues, their propensity to purchase green products increases significantly. Based on this perception, we propose that:

Hypothesis 1: There is a significant level of awareness and a positive perception among urban consumers in Delhi NCR towards green products and sustainable consumption practices.

2.2 Drivers of Urban Green Product Demand

Several key motivators have been studied with respect to green market demand including concern for the environment, price, trust in the brand, and availability (Tan, Z., et al., 2022). Environmental concern being a strong motivating factor, the practical aspects of product availability and price moderated actual purchase behavior. Similarly, Maniatis, P. (2016) indicated that brand reputation and trust were crucial factors in the consumer's choice between green products or services and regular products or services. Likewise, Yue, B, et al., (2020) also revealed that, despite positive environmental attitudes, price sensitivity remains a considerable hurdle to consumers switching to more sustainable options. Consumers routinely demand either quantifiable benefits or cost parity before choosing an alternative green option.

These findings are further corroborated by Chaudhary, R., & Bisai, S. (2018) explored urban Indian consumers perceived green products as premium, which affected purchase uptake, despite having positive attitudes toward the sustainable product. In addition, availability is an important enabling factor in urban contexts where convenience is paramount. On the other hand, Jostock, et al., explored increased shelf presence and ease of access dramatically increase the likelihood of purchasing green products. Based on this perception, we propose that:

Hypothesis 2: Key drivers such as environmental concern, product availability, price sensitivity, and brand trust significantly influence the urban demand for green products in Delhi NCR.

2.3 Demographic Determinants: Age and Gender

Demographic features, including gender and age, also have strong applications with regard to green purchasing practices. A considerable number of studies have indicated that young urban consumers are increasingly willing to accept sustainable lifestyles. Huh, J., & Kim, N. L. (2024) showed that millennials and Gen Z consumers displayed heightened levels of environmental consciousness, and responsiveness to sustainability messaging. Correia et al., (2023) indicated that, regarding gender, women are generally more responsive to green advertising and are overall more environmentally conscious than men when making purchasing decisions. The gendered social roles and ethical orientations make urban women more aligned with green values.

In addition, Jayasingh, S., et al., (2021) indicated that female consumers in metropolitan cities had a greater inclination to buy environmental brands, sometimes driven by both environmental and family concerns. Additionally, age is also important and is characterized by younger groups being more exploratory and older groups tending to be price sensitive. Therefore, understanding the demographic dynamics is important when developing market segmentation and targeting strategy in the green economy.

Hypothesis 3: Demographic variables such as age and gender have a significant impact on the urban demand for green products in Delhi NCR.

Despite the rising scholarly and policy interest in environmental sustainability and the proliferation of green products in urban markets, there remains a limited empirical understanding of how specific urban demand characteristics shape

green market dynamics in rapidly growing Indian metropolitan regions such as Delhi NCR. Prior research has shown environmental awareness, accessibility to green alternatives and socio-economic background are significant drivers of green consumption, but there is a dearth of systematic empirical investigation of the relations of consumer awareness, demographic characteristics (age and gender), institutions, and technological adoption, as they contribute to urban demand for green products, in the Indian urban context. Although literature has examined global trends and broad behavioral theories, evidence and insight focusing on the socio-cultural and infrastructural ecosystem of Delhi NCR elucidating urban characteristics of green market forces has not been developed. This study attempts to fill that gap and provide contextual empirical insights into urban consumer behavior and market forces, drawing on an economic view and behavioral lens to construct an integrated picture of green market characteristics developed in the urban Indian context.

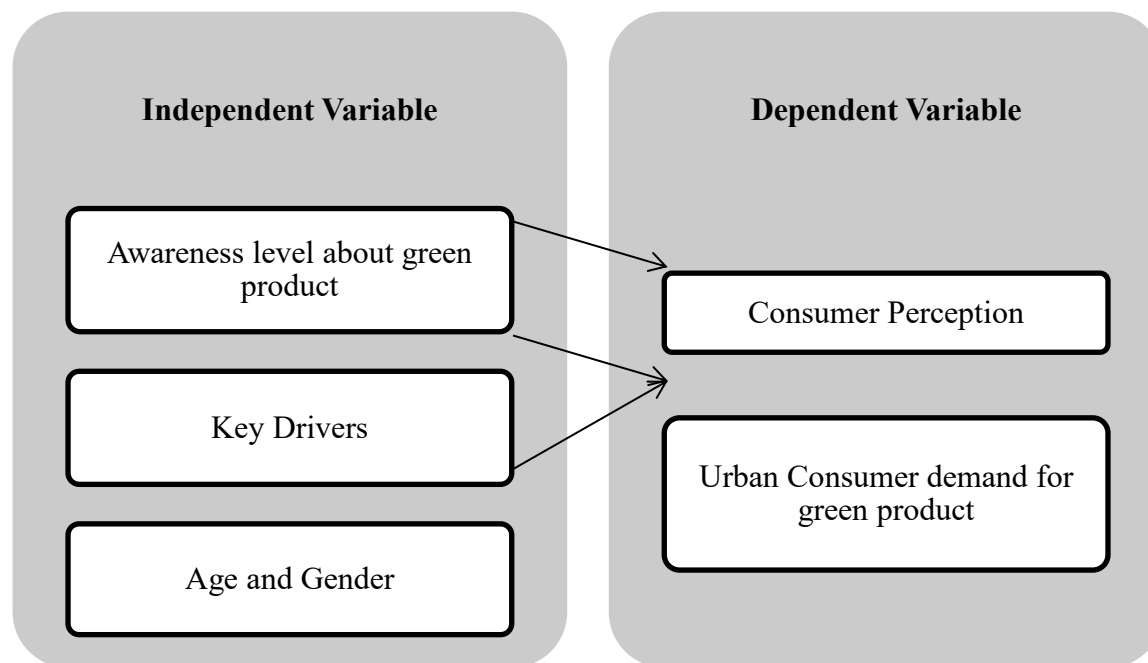


Figure 1: Research Framework

3. Material and Methodology

A mixed-methodologies strategy is used in this study to thoroughly evaluate green marketing behaviour. The technique integrates quantitative and qualitative methods. The study area of interest was the Delhi NCR area with the target population being urban consumers living in the metropolitan areas. A stratified random sampling design is used to ensure representation across demographic dimensions. The overall sample size consisted of 200 respondents and both are descriptive and exploratory to reveal both trends and consumers' values/motivations. A structured survey is utilized to collect quantitative and qualitative data. A survey is appropriate for this research endeavor to obtain a deeper understanding of the consumers' behavior in a detailed manner.

The study evaluates both primary data and secondary data sources. Independent variables include consumer awareness towards green products, the most significant driving forces, age and gender of consumers. Dependent variables are urban consumer demand and consumer perception of green products. The study used MS Excel and SPSS tools. Statistical techniques used to make meaningful inferences in the study include mean, standard deviation, regression analysis, ANOVA and correlation, so that this study could capture the range and understanding about urban green consumer behavior in the context of Delhi NCR.

4. Result**Table 1: Demographic Variables of the Respondents**

SR. No	Demographic Variables		N	%
1	Age	18-25 years	40	20.00%
		26-35 years	38	19.00%
		36-45 years	47	23.50%
		46-55 years	40	20.00%
		Above 55 years	35	17.50%
2	Gender	Female	105	52.50%
		Male	95	47.50%
3	Educational Level	12th pass	36	18.00%
		Below 12th standard	40	20.00%
		Doctorate and above	42	21.00%
		Graduate	40	20.00%
		Postgraduate	42	21.00%
4	Monthly Family Income	Above Rs 2,00,000	36	18.00%
		Less than Rs 25,000	30	15.00%
		Rs 1,00,001 - Rs 2,00,000	42	21.00%
		Rs 25,001 - Rs 50,000	49	24.50%
		Rs 50,001 - Rs1,00,000	43	21.50%
5	Occupation	Business Owner	36	18.00%
		Homemaker	39	19.50%
		Retired	27	13.50%
		Salaried (Private/Government)	33	16.50%
		Student	36	18.00%
		Unemployed	29	14.50%

6	Type of Residence	Independent House	48	24.00%
		Owned Apartment	58	29.00%
		Rented Apartment	44	22.00%
		Slum	50	25.00%
7	Frequency of Eco-friendly Purchases	Always	44	22.00%
		Monthly	35	17.50%
		Never	41	20.50%
		Rarely	37	18.50%
		Weekly	43	21.50%

The demographic profile of the respondents reveals a well-distributed age range, with the majority falling within the 36–45 years group (23.5%), followed by equal representation from the 18–25 and 46–55 years categories (20% each), while the least representation is seen in the above 55 years group (17.5%). Gender distribution is nearly balanced, with a slightly higher proportion of females (52.5%) compared to males (47.5%). In terms of educational qualification, the sample is diverse, with the highest representation from individuals holding Doctorate and Postgraduate degrees (21% each), followed closely by those who are Graduates and below 12th standard (20% each), while 12th pass respondents make up the remaining 18%. Occupation-wise, the respondents are fairly distributed across different categories, with homemakers (19.5%), business owners and students (18% each), and salaried individuals (16.5%) forming significant proportions, while retired individuals (13.5%) and unemployed respondents (14.5%) represent a smaller share. Regarding residence type, most respondents reside in owned apartments (29%) or slums (25%), followed by independent houses (24%) and rented apartments (22%). Finally, the frequency of eco-friendly purchases shows that 22% of respondents always buy such products, with weekly (21.5%) and never (20.5%) purchase frequencies being notable, indicating a mix of regular, occasional, and non-buyers in the sample.

4.1 Result based on Hypothesis

Hypothesis 1: There is a significant level of awareness and a positive perception among urban consumers in Delhi NCR towards green products and sustainable consumption practices.

Table 2: Descriptive Statistics

Descriptive Statistics			
	Mean	Std. Deviation	N
Consumer perception	17.8150	3.78051	200
Awareness level about green products	17.5800	3.82318	200

According to the descriptive data, 200 people are survey about their opinions on environmentally friendly items, and the average score was 17.82 with a standard deviation of 3.78. This suggests that, on average, consumers exhibit a moderately positive perception of green products, with some variability in their responses. Similarly, the mean awareness level about green products is 17.58, with a standard deviation of 3.82, also based on 200 participants. This reflects a comparable level of awareness among consumers regarding green products, with slightly more variation in individual responses. The closeness of the mean values implies a potential alignment between consumers' awareness and their perception, indicating that higher awareness may be associated with more favorable perceptions of green products.

Table 3: Correlations

Correlations			
		Consumer perception	Awareness level about green products
Consumer perception	Pearson Correlation	1	.173*
	Sig. (2-tailed)		.014
	N	200	200
Awareness level about green products	Pearson Correlation	.173*	1
	Sig. (2-tailed)	.014	
	N	200	200
*. Correlation is significant at the 0.05 level (2-tailed).			

There is a significantly positive link between consumer perception and awareness level of green products, as indicated by a Pearson correlation coefficient of 0.173 and a p-value of 0.014, which is less than the 0.05 significance threshold. Despite the weak association, this suggests that customer sentiment towards green products tends to improve as awareness about them rises. According to the results from the 200 participants surveyed, the link is not coincidental, since the correlation is statistically significant. Therefore, spreading knowledge about eco-friendly items to the general public might help mould positive opinions in the city market.

Hypothesis 2: Key drivers such as environmental concern, product availability, price sensitivity, and brand trust significantly influence the urban demand for green products in Delhi NCR.

Table 4: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.025 ^a	.001	-.004	4.17326
a. Predictors: (Constant), Key Drivers				

The model summary states that, with some important caveats, the regression findings show how the Key Drivers affect the dependent variable. Specifically, the almost nonexistent connection between the independent and dependent variables is shown by the exceedingly low R value of 0.025 in the model. With a R Squared value of 0.001, it can be seen that the important factors explain a pitiful 0.1% of the variation in the dependent variable. Also, the model isn't doing much better than predicting the mean, as the Adjusted R Square is negative (-0.004). On average, the observed values deviate from the regression line by 4.17326 standard deviations, this is the estimate's standard error. All things considered, the model's predictive power is pitiful, and the main drivers account for almost no variation in the dependant variable.

Table 5: ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.169	1	2.169	.125	.005 ^b
	Residual	3448.386	198	17.416		
	Total	3450.555	199			
a. Dependent Variable: Urban consumer demand for green products						
b. Predictors: (Constant), Key Drivers						

An ANOVA table reveals a statistically significant regression model that analyses the impact of key variables on urban customers' demand for green commodities. While the standard alpha level is .05, the F-value is .125 and the Sig. level is .005. This indicates that the key drivers have some meaningful contribution to explaining the variation in consumer demand. The regression sum of squares is 2.169, with a residual sum of squares of 3448.386, which indicates that only a small portion of the total variation (3450.555) can be explained by this model. Thus, although the F-value is relatively small, the significance of the p-value is large enough to indicate a statistically valid relationship with respect to the relationship between key drivers and urban consumer demand.

Table 6: Coefficients

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	17.129	1.325		12.931	.000
	Key Drivers	.026	.074	.025	.353	.005
a. Dependent Variable: Urban consumer demand for green products						

The regression analysis indicates that the primary factors exert a positive but mild influence on urban consumer demand for green products, as evidenced by the unstandardised coefficient ($B = 0.026$) and the low standardised beta ($\beta = 0.025$). Furthermore, the t-value in this instance is modest ($t = 0.353$); nonetheless, the significance level ($p = 0.005$) indicates a meaningful link. This means that any slight variation in the key drivers (e.g., environmental concern, product availability, price sensitivity, or brand trust) can result in significant variations in green product demand among urban consumers. The constant value of 17.129 represents the predicted demand level when holding the key drivers constant.

Hypothesis 3: Demographic variables such as age and gender have a significant impact on the urban demand for green products in Delhi NCR.

Table 7: Descriptive

Descriptive								
Urban consumer demand for green products								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	40	16.9500	4.22417	.66790	15.5990	18.3010	7.00	23.00
2.00	38	19.1316	3.58805	.58206	17.9522	20.3109	11.00	25.00
3.00	47	17.1064	4.14012	.60390	15.8908	18.3220	9.00	25.00
4.00	40	16.6750	4.15339	.65671	15.3467	18.0033	7.00	25.00
5.00	35	18.3143	4.36410	.73767	16.8152	19.8134	9.00	25.00
Total	200	17.5850	4.16407	.29444	17.0044	18.1656	7.00	25.00

The descriptive statistics table presents the urban consumer demand for green products across five different groups. Group 2 exhibits the highest mean demand score of 19.13, indicating a relatively stronger inclination toward green products, followed by Group 5 with a mean of 18.31. Group 4 has the lowest mean score of 16.68, suggesting comparatively lower demand in that category. The standard deviation across all groups ranges from 3.59 to 4.36, reflecting moderate variability in consumer responses. A modest average level of interest in green products among urban customers is shown by the overall mean demand of 17.59 with a standard deviation of 4.16 across all 200 respondents. The data is reliable since the confidence intervals show that the real means of each group are within

limited ranges. The minimum and maximum scores across the groups range from 7.00 to 25.00, suggesting some respondents have very low while others show high demand for green products. These variations may reflect differences in awareness, accessibility, or attitude toward sustainability across groups.

Table 8: ANOVA

ANOVA					
Urban consumer demand for green products					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	169.527	4	42.382	2.519	.043
Within Groups	3281.028	195	16.826		
Total	3450.555	199			

The ANOVA table for urban consumer demand for green products indicates a statistically significant difference among the studied groups. The Within Groups total of squares is 3281.028 with 195 degrees of freedom, resulting in a mean square of 16.826. The F-ratio is 2.519, with significance (p-value) of 0.043, which is below the conventional alpha level of 0.05. This signifies a substantial disparity in urban consumer desire for eco-friendly items among various demographics. Consequently, it may be concluded that the independent variable (presumably demographic or psychographic classifications) significantly influences the demand for green products among urban customers.

Table 9: Descriptive

Descriptive								
Urban consumer demand for green products								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	105	17.0286	4.33780	.42333	16.1891	17.8680	7.00	25.00
2.00	95	18.2000	3.89380	.39950	17.4068	18.9932	9.00	25.00
Total	200	17.5850	4.16407	.29444	17.0044	18.1656	7.00	25.00

The descriptive statistics table presents the urban consumer demand for green products across two groups. Group 1 (N=105) shows a significant amount of demand and some variability among respondents, with an average score of 17.03 and a standard deviation of 4.34. Within this category, we get a 95% CI of 16.19–17.87. A somewhat greater and more consistent demand for green goods is shown by Group 2's (N=95) higher mean demand score of 18.20 with

a standard deviation of 3.89 and its confidence interval ranging from 17.41 to 18.99, in comparison to Group 1. A mean of 17.59 and a standard deviation of 4.16 for the entire sample size of 200 indicates moderate demand with a little amount of variance among the samples. There is a wide variation in the preferences of urban consumers for environmentally friendly items, as shown by the demand ratings, which vary from 7.00 to 25.00. Overall, the data suggest that Group 2 exhibits a relatively higher and more consistent demand for green products compared to Group 1.

Table 10: ANOVA

ANOVA					
Urban consumer demand for green products					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	68.441	1	68.441	4.007	.047
Within Groups	3382.114	198	17.081		
Total	3450.555	199			

The ANOVA table shows that the groups compared had significantly different levels of demand for environmentally friendly items among urban consumers. A p-value of 0.047 and an F-value of 4.007 are both lower than the commonly accepted 0.05 criterion. This suggests that the variation in demand for green products across the groups is not due to random chance. However, the statistically significant F-ratio confirms that at least one group differs notably in its demand for green products, warranting further investigation into the factors distinguishing these groups.

4.2 Findings of result

The finding of the result that urban consumers in the Delhi NCR report a moderate awareness ($M = 17.58$, $SD = 3.82$) and moderately positive perception ($M = 17.82$, $SD = 3.78$) of green products. The relationship is weak and does not validate the potential impact of awareness interventions on perception. The results from regression indicate that the dominant drivers; environmental concern, product availability, price sensitivity and brand trust, play some role in clearing up consumer demand ($p = 0.005$). Even as adequate as this result appears, the model only explains 0.1% of the demand ($R^2 = 0.001$) and produces a very weak positive coefficient ($B = 0.026$). In regards to ANOVA of the demand revealed there are reliable differences in the demand by demographics through age ($F = 2.519$, $p = 0.043$) and gender ($F = 4.007$, $p = 0.047$) demonstrating that consumers from some demographic groups, case in point younger aged groups and females, report higher demand. Thus even on a very low base of demand statistics, the demographic variables compared to the key drivers, when choice is available, are potentially the more impactful variables in producing demand for green products.

5. Discussion

The green market in urban India, especially Delhi NCR, operates in a context of interplay of social, cultural, infrastructural, and policy contexts, which are different in several ways from many other countries. Urban consumers with heightened educational tendencies, who are increasingly exposed to environmental issues by hearing and seeing them in social circles and media, are developing more environmentally conscious consumption pathways (Ramaswami, A., et al., 2017). Scholars such as (Huang, L., et al., 2024) suggest that green branding, green labels, and

perceived consumer effectiveness serve to increase sustainable purchasing behavior. This entrained behaviour is complemented in India by a greater match of green products with health and desired lifestyles (Schroeder, P., & Anantharaman, M. 2017). Further, the green market in India is more than simply a response to available product; it is an extension of identity, values, and aspirational living in urban spaces (Roy, J., et al.,2018).

In a study of urban demand, it's important to realize that infrastructure access, as well as public policy, are as influential on green purchasing as consumer intention (Lăzăroiu, G., et al.,2020). This obtaining of a baseline on intention has been noted by Yu, Z., & Huang, P. (2020), who wrote, municipalities, legislation and government-supported incentives all provide important support of the diffusion of green products. Delhi NCR is a highly regulated and media-saturated environment and is subject to targeted top-down interventions such as certifications around green products and bans on plastic and encouragement of sustainable urban mobility missions, etc. (Huang, Q., et al.,2022) explored government regulations do not just require compliance; they agentially influence market structures for green products by influencing decisions both on the manufacturer experience as well as awareness on the consumer experience. This supports by (Dutt, N., et al.,2016) who assessed the development of green markets in emerging economies is almost always accelerated by institutional scaffolding.

Technology has a featured role in green consumption in urban India. Two roles of technology are allowing green consumers easier access to green products. E commerce, smartphone apps for waste segregation and carbon footprint tracking provide access to sustainable alternatives. New technological developments also increase the expectation regarding transparency and accountability for the supply chain (Lorek, S., & Spangenberg, J. H. 2014). According to research by (Li, C. Z., et al.,2016) smart city strategies and the development of infrastructure leveraging the Internet of Things (IoT) are able to re-engineer consumption in cities with a focus on sustainability. Moreover (Kathuria, R., et al.,2021) explored physical platforms, it appears that in Delhi NCR existing platforms are increasingly addressing the met need for information, especially for younger, educated consumers who are conscious of these issues and use technology, particularly the educated young who are being influenced by new technological formats. Furthermore the increasing digitalization of green campaigns and green storytelling through social media has recasted green behaviour as a socially visible act of aspiration (Vazquez-Brust, D.,et al.,2014).

Lastly, (Ziesemer, F., et al.,2021) explored young consumers are moving away from what was once a clearly defined consumption pattern to one that is characterized by, ethical, and experiential preferences. At the end (Rusyani, E., et al.,2021) noted, urban Indian consumers are transferring their understanding of green products to notions about safety, prestige, and quality; thereby transforming the green market from an environmentalism conversation to one associated with values in lifestyle branding. Altogether, these socio-demographic findings reaffirm that for greater penetration into India's urban green market(s), culturally and context specific marketing and policy approaches(s) are warranted.

6. Conclusion

The study highlights how urban consumers in the region currently demonstrate a moderate level of awareness and a generally positive perception towards green products. It determines that while environmental concern, availability of green product, price sensitivity, and brand trust impact green product demand; they have a statistically small effect compared to demographic elements such as age and gender. These larger elements align with younger consumers and women as key drivers of the demand for eco-friendly products and it is vital for marketers who want to reach consumers of green products engage in demographic profiling. Furthermore, urban infrastructure, policy frameworks, and digital technologies are all relevant determinants of urban sustainable consumption. Consumers are increasingly viewing green products as synonymous with quality, health, and lifestyle values. Overall, the empirical perspective offers an important understanding of the extent to which consumer modes, institutional support, and market processes cohere to offer green market characteristics in Delhi NCR, as well as highlights the benefit of more integrated, targeted, and geographic city strategies for urban sustainable consumption.

7. Implications

The study's has several critical implications. The current situation reveals the moderate awareness and favorable response of urban consumers in Delhi NCR around green products which correlates significantly to rise in demand. This suggests that sufficient environmental education and awareness needs to take place to help increase sustainable consumption. Beyond this, demographic drivers of green consumption like age and gender appear to be more important than typical key drivers of consumption such as price sensitivity and product availability. This suggests that green marketing approach must be designed to appeal to socio-demographic segments of the population - younger and female groups, indicated stronger affinity to eco-products. Likewise, public policy, digital infrastructure and institutional support mechanisms play a decisive role in consumer behavior, and contribute to green market development. Thus, for green markets to grow and develop in urban India, interventions and management with a coordinated approach of policy responses, corporate social responsibility and consumer empowerment through technology and education are key to strengthen access to green products, for higher adoption rates. This study increase commodity market adoption, but it could maybe even flick the switch on broader sustainability in urban parts of India like Delhi NCR.

8. Limitations and Scope for Future Research

The study offers valuable insights into consumer awareness, perception, and demographic influences on green product demand. The research is limited to a geographically isolated analysis of Delhi NCR, which mean that the findings from this research may not fully apply to other urban or rural areas in India with different socio-economic, cultural, or infrastructural factors. The study also relied on self-reported survey data that could be subject to bias, with respondents unaware of their actual routines as consumers. Moreover, the model only accounted for a very small percent of explained variance for the dependent variable, indicating that some other influential variables--such as psychological variables, policies awareness, or the access to green technology-- exist that were not comprehensively explored. Future studies should be developed to take into account comparative studies across multiple urban centers in India, and even by expanding comparisons of rural and urban consumers, thereby exploring the demand of green products and markets. Future studies should utilise longitudinal and behavioural data, as well as seek to identify the role of emerging digital platforms, environmental education, and regulatory actions towards influencing consumer behaviours and policies promoting sustainable consumption.

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