



Exploring Millennial Intentions to Use Ride-Hailing Services in India: A Comparative Study of Perceived Value and Consumer Behavior

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Abstract

The rise of ride-hailing services has transformed urban transportation worldwide, and India's millennial population has emerged as a key demographic in this evolving mobility landscape. This study explores the factors influencing millennial intentions to use ride-hailing services in India, focusing on perceived value and consumer behavior. Using a descriptive research design, the study examines economic, relational, and green value dimensions alongside previous technology experience and regional variations in consumer preferences. Data was collected through a structured survey of 105 respondents, analyzed using statistical techniques such as t-tests and ANOVA. Findings reveal that affordability, convenience, and social influence significantly impact adoption, with urban millennials being the most frequent users. Additionally, prior exposure to digital platforms plays a crucial role in shaping comfort levels with ride-hailing services. Safety concerns, particularly among female users, highlight the need for enhanced security measures. The study provides valuable insights for ride-hailing service providers and policymakers, emphasizing the importance of targeted marketing strategies, improved safety features, and digital literacy initiatives to bridge urban-rural gaps. Future research should explore evolving consumer preferences, rural adoption challenges, and the integration of sustainable mobility solutions.

I. Introduction

The emergence of ride-hailing services such as Uber, Lyft and Ola has revolutionized urban travel patterns in all parts of the world, allowing users to forego private vehicle ownership as well as relying on conventional taxis. These services are quite often quickly requested via a mobile app and meet three major criteria: convenience, cost and flexibility, in particular in densely populated cities where the available public transport system coverage is rather low (Acheampong et al. 2020). In

India, particularly in the millennial population, who is well known for being digital natives and early adopters of technology-driven services, ride-hailing has gained popularity and become an integral part of urban transport. Millennials comprise a large part of the urban commuters in the country and were born between early 1980 and mid-1990 and they have specific characteristics which make them attractive targets for on-demand ride-hailing business (Malik & Rao, 2019; Raj et al, 2022).

Millennials from India's major urban centers are beginning to embrace the use of ride-hailing services; these have proven congruent with their dynamic lifestyle that demands ease of access, speed and low fares. The increase in the adoption of smartphones and cheap data connectivity further spurred this, enabling the use of ride-hailing services in urban and semi-urban regions of India (Lee et al., 2021). Romantic ride-hailing platforms provide Num

While the literature on ride-hailing is vast internationally, very few surveys deal specifically with the behavioral aspects of Indians in this case the millennials. Existing studies are largely focused on developed nations or generic markets, and most neglect the complex characteristics of Indian millennials who are facing high entry barriers in urban dependability. For instance, works done in China and the US showed that cost and relational value were important for millennials' intent to use ride-hailing services. Likewise, Nguyen-Phuoc et al. (2022) found that in Vietnam, price sensitivity as well as environmental concern were important determinants of attitudes towards on-demand shared rides. However, such findings will be difficult to apply within an Indian context considering the country's economic, regulatory and transport context which are likely to have a different effect on the behaviour of the millennium group.

Lack of studies specific to India also means that no research has been conducted seeking to understand how perception of value, technology and buyer



behavior vary in different parts of the country. The emerging features of Indian millennials with regards to high smartphone, low economy and coupled with a growing concern on climate change point towards the need for a more focused investing

This study has great implications for various stakeholders, including ride-hailing service providers, policymakers, and urban planners. For service providers, identifying the key motivators and barriers to adoption, such as cost, convenience, and safety, can inform targeted marketing strategies and service enhancements that align with millennials' expectations. Perhaps further enlightenment in the perceptions of value in terms of the economic, relational, and environmental benefits could also help service providers create service models more attuned to the specific needs and preferences of the millennials, thereby fostering better adoption and retention rates. In addition, knowledge on the past experience of technology users may help service providers better craft user-friendly interfaces geared towards a digitally literate audience while taking into account potential usability barriers for a lesser techie clientele (Nguyen-Phuoc et al., 2022).

For policymakers, this study would provide critical input to ensure that solutions towards sustainable and equitable urban mobility would be achieved. Conclusions derived from perceived green value and safety may find expression in policies designed to enhance public transportation systems, to frame regulations on ecologically friendly transportation modes, or even in ride-hailing service safety. The urgency to craft policies promoting accessible, efficient transportation increases as the Indian subcontinent urbanizes with a new generation of tech-savvy young citizens. The comparative approach of this study will shed light on regional disparities in the adoption of ride-hailing by studying consumer behavior across various Indian contexts. It would thus be able to pinpoint specific needs and constraints in urban, semi-urban, and rural settings to enable policymakers to design targeted interventions for promoting transportation inclusivity and accessibility.

This research is divided into five chapters. Chapter I consists of an introduction: a discussion on research background, problem statement, objectives, and importance of this study. Chapter II develops the entire literature review and delves into the relevant work undertaken about ride-hailing adoption as well as factors determining millennials' behavior, like perceived value, technology experience, and contextual variations. Chapter III sets out the method employed by the study that

incorporates methods of data collection as well as analytical frameworks. Chapter IV concludes with the results that will compare the influences of perceived value and technology experience on consumer behavior in different contexts. Chapter V summarizes key findings, presents recommendations for service providers and policymakers, and suggests areas for further research.

II. Data and Methodology

2.1 Methodology

This research adopts a descriptive research design to establish the factors influencing ride-hailing services among Indian millennials. Descriptive research is well-suited to determine existing conditions and detail characteristics about the population under study. In this situation comprises Indian millennials between 22 and 35 years old. With this method, the identified patterns, preferences, and motivations for ride-hailing service usage will be derived. By a descriptive design, the study shall try to provide a more clear perspective on how consumers in the target group operate from perceived value, previous experience with the technology, and contextual influences.

A descriptive research design is highly appropriate for this study, since it allows the variables influencing the adoption of ride-hailing services to be explored without altering or manipulating the participants' natural environment. Given that prior focused research work is almost absent for an Indian millennium adopting the rideshare, a descriptive study provides the appropriate approach in recognizing trends and describing behavior toward certain variables influencing adoption of such service.

2.2 Data

Research will be for this data is gathered through simple random sampling, a form of a probability sampling technique that ensures every member of the target population has an equal chance of selection. This type of sampling minimizes selection bias, thereby increasing the representativeness of the sample and ensuring that results can be generalized to a larger population of Indian millennials. The target study will focus on millennials aged 22-35, as it falls within the demographic range where ride-hailing adoption is most prevalent due to increased smartphone penetration, mobility needs, and digital literacy.

The size of the sample for this research is 100 respondents. This number is deemed adequate to ensure statistical reliability in descriptive studies. A structured questionnaire will be used to gather



data on perceived value, previous technology experience, and consumer behavior in ride-hailing adoption. It is going to have closed also open-ended questions, used in capturing both the quantitative data for statistical analysis and also the qualitative insights on participants' perspectives. Areas in the questionnaire that key to cover include demographic information, frequency of usage, value factors perceived, like cost and convenience, and experience with previous technologies.

2.3 Objectives

1. Analysing Influencing Factors on Millennial Intention:

Conduct a detailed analysis of the specific, factors influencing Indian millennials' intention to utilize ride-hailing services in terms of perceived value, safety, and convenience.

2. Analysing Role of Perceived Value

Examine how different dimensions of perceived value (economic, quality, relational) influence Indian millennials' intention to adapt ride-hailing services.

3. Assess the results of past technology experience.

Explore how previous experiences with mobile technology shape the Indian millennial's intentions to use ride-hailing services, in light of their familiarity with smartphone applications.

4. Compare Consumer Behaviour Across Different Contexts:

Make a comparative analysis of millennial intentions to use ride-hailing services in emerging economies or developed states in India and identify unique and common factors that influence it.

2.4 Hypothesis Statement

These hypotheses are designed to test the relationships between key variables—perceived value, technology experience, and contextual

3.2 Statistical Findings

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
male	62	59.0	59.0	59.0
Female	43	41.0	41.0	100.0
Total	105	100.0	100.0	

The table shows the distribution by gender of a sample that comprises 105 individuals: Information is limited to only two categories, male and female. The males are the slight majority of the

variations—and to identify patterns that align with millennial preferences.

- H1** Perceived value positively influences millennials' ride-hailing intentions.
- H2** Past tech experience significantly influences millennials' acceptance of ride-hailing services.
- H3:** Consumer behaviour and ride-hailing adoption intentions vary significantly across different socio-economic and regional contexts.
- H4:** Millennials with higher perceived value scores will report higher frequencies of ride-hailing usage compared with lower perceived value scores.

2.5 Analytical Tools Used

Descriptive Statistics: Used to summarize user demographics and frequency of ride-hailing adoption.

t-Tests: Assess differences between groups (e.g., gender-based adoption rates).

ANOVA (Analysis of Variance): Compare adoption rates across different income levels and regions

3. Data Analysis & Findings

Demographic Insights: The majority of respondents were from urban areas, with low-income millennials forming a significant proportion.

Perceived Value: Economic and relational value significantly influence adoption, with affordability and peer recommendations playing a key role.

Technology Experience: Millennials familiar with mobile applications are more likely to use ride-hailing services.

Regional Variations: Urban millennials have higher adoption rates than those in semi-urban and rural areas due to better infrastructure and connectivity.

Gender Differences: Female users prioritize safety more than their male counterparts.

3.1 Statistical Findings: No significant difference in ride-hailing adoption based on gender, but income levels and digital literacy significantly impact adoption.

sample, at 59% (62). The sample consists of females, which makes up 41% (43). The last column on the right provides the cumulative percentage of the table. Along the column in the table, the



cumulative percentages increase stepwise to 100%, as is seen positioned at the bottom of the table. This implies that the table is descriptive of the gender distribution within the sample.

Such would give slight dominance of the males in the sample. The information could be greatly important to other analyses; like knowing gender composition of the sample, identifying whether some differences between males and

females may be present or targeting interventions. For example, if data represented an employment opportunity survey, a policymaker may analyse for existence of a difference between male and female employment rates. Similarly, the information can be used by researchers who would like to study gender equality or social disparities in understanding gender dynamics within the population.

Age

	Frequency	Percent	Valid Percent	Cumulative Percent
20-24	91	86.7	86.7	86.7
25-29	10	9.5	9.5	96.2
30-35	4	3.8	3.8	100.0
Total	105	100.0	100.0	

It shows the distribution by gender of a sample consisting of 105 individuals: Information is categorized into two genders only, male and female. The males happen to be most of the sample, taking up 59% or 62. The females constitute the sample, standing at 41% or 43. The final column on the right has the cumulative percentage of the table. Along the column of the table, the cumulative percentages build up to 100 percent as indicated positioned at the bottom of the table, suggesting that the table is highly descriptive of the gender-related distribution in the sample population.

Such would give slight dominance of the males in the sample. Information could be very

significant for other analyses, such as knowing gender composition of the sample, identifying if there are certain distinctions between the males and females or to direct interventions. For example, if data represented an employment opportunity survey, a policymaker could make an analysis for the presence of a difference between the male and female employment rates. Similarly, the information can be helpful to researchers who would like to study gender equality or social disparities in understanding gender dynamics within the population.

Income level

	Frequency	Percent	Valid Percent	Cumulative Percent
0-20000	93	88.6	88.6	88.6
20000-50000	4	3.8	3.8	92.4
50000-80000	3	2.9	2.9	95.2
above 80000	5	4.8	4.8	100.0
Total	105	100.0	100.0	

The table breaks down the distribution of income levels among 105 sample respondents. There are four income ranges, which include 0-20000, 20000-50000, 50000-80000, and above 80000. In the sample, 88.6% (93) fall in the lowest range of 0-20000. This suggests that a high percentage of respondents are low-income earners. The next income category is between 20000 and 50000, with 3.8%, having 4 persons. The income category of 50000-80000 presented a slightly higher

representation accounting for 2.9% with 3 people. The highest income categories of above 80000 presented the smallest representation, with only 4.8% represented by 5 people in this category. The cumulative percentage column further presents that the lower income groups dominate the distribution. As we move down the table, cumulative percentage adds on, that is to the total to 100% at total. It indicates that the table provides almost a complete summary of income distribution in a sample.



This would mean that the demographic skew appears to be toward lower income. This will be valuable insights for any type of analysis that might include understanding what the socioeconomic characteristics of your sample are, identifying potential areas of need or intervention, or informing policy decisions to name a few. Should

these data represent a community survey, policymakers could target most programs and resources toward the majority of respondents in the lower income brackets. Similarly, in income inequality or poverty research, such data can be used to describe how income is distributed among the population.

Current Residence

	Frequency	Percent	Valid Percent	Cumulative Percent
urban	62	59.0	59.0	59.0
semi-urban	35	33.3	33.3	92.4
rural	8	7.6	7.6	100.0
Total	105	100.0	100.0	

Table shows distribution in residential areas within a sample of 105 individuals. Residential areas are classified as three types: urban, semi-urban, and rural. The majority, at 59% (62 individuals), stay in urban areas. This accounts for quite an observable concentration of people staying in locations classifiable as urban. Semi-urban areas also account for 33.3% (35 individuals) in this sample. Rural areas have the lowest percent, with only 7.6 percent (8 individuals) living in rural areas. The cumulative percentage column further illustrates that, in general, urban and semi-urban areas tend to dominate. As one goes down the table, the cumulative percentage increases until it reaches 100 at the total. This means the table gives a

complete picture regarding the distribution of residential areas within a sample.

This table shows that the demographic skews toward the urban and semi-urban areas. The data can be useful for different analyses: understanding the spatial distribution of the sample, identifying possible urban-rural disparities, or information for urban planning and development strategies. For instance, if the data represents a survey on access to health services, policymakers could focus their interventions on rural areas where access might be limited. Similarly, researchers interested in urbanization trends or rural-urban migration could use this information to understand the distribution patterns of residential areas.

T-Test

- 1) Comparative Analysis of Consumer Behaviour Across Contexts

	N	Mean	Std. Deviation	Std. Error Mean
male	62	2.6250	0.43123	0.05477
Female	43	2.6628	0.40046	0.06107

	Levene's test for homogeneity of variances		t-test for comparing means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Assuming equal variances	0.159	0.690	-0.455	103	0.650	-0.03779	0.08314	-0.20269	0.12711



Unequal variances assumed		-0.461	94.595	0.646	-0.03779	0.08203	-0.20065	0.12507
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The table indicates that an Independent Samples T-test is used to compare means of two independent groups, and in this case, the two independent groups, males and females.

From the table above, mean CACB score of males is provided as 2.6050 whereas mean for female is set at 2.6628. Then Levene's test for variance equality shows that the variance between the groups is not significant.

The results of the t-test indicate that the mean scores for males and females under CACB are not statistically significantly different. The p-value

Anova

1) Comparative Analysis of Consumer Behaviour Across Contexts

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.036	1	0.036	0.207	0.650
Within Groups	18.079	103	0.176		
Total	18.115	104			

The table below gives the result of the ANOVA test that is carried out if more than three groups have to be compared in respect to their means. Here we have only two: males and females.

The sum of squares, degrees of freedom, mean square, F-value, and significance level (p-value) both for between-groups and within-groups variations are provided in the table. The value of F-value is 207 and the p-value accompanying the F-

is 0.650, which is higher above the significance level of 0.05. Therefore, we cannot reject the null hypothesis, indicating that there is no significant difference between the two groups in terms of their mean values.

Therefore, based on the result of Independent Samples T-test, it is indicating that there is a no CACB score difference on a statistically significant basis for males and females.

T-Test

2) Perceived Value in Ride-Hailing Services

	N	Mean	Std. Deviation	Std. Error Mean
male	62	3.3790	0.68912	0.08752
Female	43	3.5640	0.52353	0.07984

value is 0.650. Since p-value > significance level = 0.05, we do not reject the null hypothesis. In this case it can be concluded that there is 1 no significant difference among the average value of the two groups 2 (males and females).

Conclusion In the analysis results of ANOVA, the result indicates that exists a no statistical discrepancy between the compared variable between males and females.

Levene's test for variance equality		t-test for comparing means					95% Confidence Interval of the Difference	
F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper



Assuming equal variances	3.102	0.081	-1.486	103	0.140	-0.18492	0.12441	-0.43166	0.06182
Unequal variances assumed			-1.561	102.088	0.122	-0.18492	0.11846	-0.41989	0.05005

From the table, the outcome is that of an independent samples t-test, a statistical test to compare the means of two independent groups. In this case, the two groups are males and females. Thus, it is represented from the table that the average PVH score for males is 3.3790 while that of females is 3.5640. The use of Levene's test for homogeneity of variances reveals that the variances of the two groups have a minor significant difference. Through the output of the t-test, the comparison regarding Perceived Value in Ride-Hailing Services and male-to-female differences is

significant in a manner that the p-value value is 0.140 that has greater value than the significance level of 0.05. Thus, we have no reason to reject the null hypothesis and therefore implies that there is no meaningful difference between the two groups of means. In short, the variation in Perceived Value in Ride-Hailing Services scores between males and females is not statistically significant according to the Independent Samples T-test results. The average Perceived Value in Ride-Hailing Services score of the females is however a little higher than that of males.

Anova

2) Perceived Value in Ride-Hailing Services

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.868	1	0.868	2.209	0.140
Within Groups	40.479	103	0.393		
Total	41.348	104			

The table below shows the results of the ANOVA test, which is applied whenever we want to compare three or more groups. We work with two groups here-males and females. Table II: Sum of Squares-Between Groups, Degrees of Freedom, Mean Square Between and Within Groups, F-statistic, and the Related p-value for the variations between groups and within-group variations. The F-value has been calculated as 2.209, and its relevant

p-value is 0.140. As such, since the p-value is larger than the predefined significance level of 0.05, we end up failing to reject the null hypothesis. This goes to mean that there's no notable difference in the means between the two groups 2 (male and female)

Conclusion based on the results of the ANOVA show no statically no notable difference in the compared variable between males and females.

Anova

3) Factors Influencing Intentions to Use Ride-Hailing Services

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.571	2	1.286	3.028	0.053
Within Groups	43.307	102	0.425		
Total	45.879	104			

The table represents an ANOVA test. It is used in comparison of means of more than three groups.



There are three groups in the given case, as represented by the "Between Groups" degrees of freedom value of 2.

The table provides the sum of squares, degrees of freedom, mean square, F-value, and the level of significance for both between groups and within groups variation.

$F = 3.028$ with the p-value of 0.053. Here since the p-value is less than the chosen level of significance, 0.05, the null hypothesis must be rejected. This implies that there is significant 1 difference between at least two of the three groups' means.

III. Conclusion

The study concludes that millennials' adoption of ride-hailing services in India is primarily driven by perceived value, previous technology experience, and regional differences. Affordability and convenience are the most influential factors, with urban millennials being early adopters due to better infrastructure and digital literacy. Safety concerns, especially among female users, highlight the need for enhanced security features. Statistical analyses indicate that while gender does not significantly impact adoption, income levels and prior experience with technology do. Service providers should focus on affordability, user-friendly interfaces, and safety measures to increase adoption. Expanding services to semi-urban and rural areas through targeted strategies can unlock new markets. Policymakers should encourage sustainable mobility solutions through incentives for electric vehicles and improved accessibility. Future research can explore long-term consumer trends, cultural influences, and policy-level interventions to optimize ride-hailing services for diverse demographics in India.

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