Major Research Project

On

THE CONSUMER PREFERENCE TOWARDS PRIVATE CARS OR CABS

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DECLARATION

I hereby declare that the work titled 'The Consumer Preference Towards Private Cars Or Cabs' as part of the final year Major Research Project submitted by Aastha Sharma, in the 4 th Semester of MBA, Delhi School of Management, Delhi Technological University, during January-May 2022 under the guidance of Prof. P.K. Suri is my original work and has not been submitted anywhere else. The report has been written by Aastha Sharma in my own words and not copied from elsewhere. Anything that appears in this report which is not my original work has been duly and appropriately referred/ cited/ acknowledged.

Aastha Sharma
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CERTIFICATE FROM INSTITUTE

This is to certify that, Ms. Aastha Sharma (2K20/DMBA/04) has satisfactorily completed the Project Report titled **"The Consumer Preference Towards Private Cars Or Cabs".** The content of the report, in whole or part, is his original report and has not been submitted anywhere else for the award of any credits/degree whatsoever to the best of my knowledge

The project is submitted to Delhi School of Management, Delhi Technological University, during the academic year 2020-22, in partial attainment of the essential requirements for the award of the degree of Master of Business Administration (MBA).

_____   _____

Prof. P. K. Suri   **Dr. Archana Singh**

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Date:

Place:

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It is my pleasure to be indebted to my mentor PK Suri, who directly or indirectly contributed in the development of this work and who influenced my thinking , behavior, acts during my course of study and also I express my sincere gratitude towards her for her support.

I also extend my sincere gratitude towards the faculty members for their support and experience that they provided me and made me capable of doing this project.

Aastha Sharma
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Executive Summary

The research study was conducted to find out the preference of private cars and cabs. It identifies the factors that may influence the decision of customers for private cars and cabs. This Research study has five chapters, Chapter one is about the Introduction of the study, Chapter two is about Literature review, Chapter three is about Research Methodology, Chapter four is about Data Analysis and Chapter five is about findings and suggestions.

This study was about the comparison of preference of customers for Private cars and cabs, I used the method of Questionnaire, the responses received were later on used for analysis of the data.

After the analysis of Responses there were certain Findings which I got that both private cars and cabs are used by the respondents but Respondents find Private Car more attractive, convenient, effective. Respondents were also more satisfied by private cars rather than cabs, but still many respondents found cabs more useful while travelling to offices/schools and also in high traffics, whereas private cars were most used while travelling with family, friends and comfort. So with these close comparisons I was able to find that customers preferred more private cars rather than cabs.

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CHAPTER-1

INTRODUCTION

1.1 BACKGROUND

In the past decade the transportation facilities in urban areas have undergone tremendous changes. Among various modes of transportation the cabs and private cars have become an important mode of transportation in metropolitan and urban cities in India. Private cars are those in which people use their own car for transportation, it is comfortable in traveling, saves time but somewhere private cars can only be used by those who can afford their own vehicle. As maintaining a car is always a challenge in monetary terms. Cabs are those cars in which the traveler has to pay the driver for traveling from one place to another. Growth of the organized car rental industry is continuously growing with support of technology. The customers in the present era are using mobile apps to book a cab at any time and from any place in urban areas. "The pricing strategy of cab operators had been positively influencing customers to book a cab instead of traditional mode of transportation like autos and local buses etc. Like most of the industries the car rental industry had undergone a lot of transformation with internet technology." The consumers are able to access book cabs at competitive prices because of tough competition among the organized cab operators.

1.2 Recent industry shift:

1.2.1 Personal mobility: Even before the pandemic took hold, the auto industry faced one of its most difficult periods as sales of cars and SUVs recorded the biggest decline in more than two decades in 2019. Rising uncertainties, difficult financing, and the economic slump kept buyers away, despite heavy discounts. There has been a shift towards smallformat mobility in recent years. The penetration of two wheelers in India has increased from 39-40 per cent in 2010 to ~60 per cent in 2019 . This COVID-19 pandemic is expected to further accelerate this trend. In contrast to the slowdown in the new car market, India's used car market has witnessed a growth over the years, owing to a slew of factors including reluctance to invest in a new car during an economic downturn, value consciousness, better quality of vehicles coming into the used-car market and increased penetration of organised players. There remains immense scope for growth in personal mobility in India, where the market is largely underpenetrated with just 22 cars per 1000 people.

1.2.2 Shared mobility: Rapid urbanisation and increasing congestion in cities have paved the way

for the development of a strong shared mobility ecosystem. India has all the ingredients to emerge as a global leader in shared mobility. Several factors—including familiarity with shared services, improving digital infrastructure, a young demographic and a vibrant entrepreneurial culture—support India's opportunity to meet transportation demand with shared mobility solutions. Shared mobility offers several potential benefits, arising from an increase in system efficiency through higher asset utilisation and better connectivity. Shared mobility's 'per km' cost is lower than private cars' and equivalent to that of three wheelers. Therefore, the transition to shared mobility is gaining momentum. Among the shared mobility models illustrated in the graphic preceding this section, ride hailing has emerged as one of the most popular model in India, as taxi-hailing apps have increased their footprint across the country in recent years. Leading cab aggregators operate in more than 100 cities, but they focus mostly on metro cities. Over 75 per cent of business for shared mobility operators comes from the top seven metro cities.

1.2.3 Subscription model: Leasing and subscription models are fast gaining popularity among Indian millennials, who seek greater flexibility and convenience. The shift towards "asset-light" lifestyles is driving demand for such models. As the global economy faces a recession in the wake of the COVID-19 pandemic, subscribing a car may be seen as a smarter choice than buying one. The subscription models work out to be significantly cheaper than payments on car EMIs and insurance premiums and offer greater flexibility to the consumer.

1.3 CONCEPTUAL FRAMEWORK

1.3.1   Discussing the parameters involved in traveling via a cab or a private car:
1. Costing of owning a car:

Which car you choose totally depends on you, but for the sake of the calculation, let's go a little conservative and assume it costs Rs 6 lakh. A diesel car would give you a mileage of around 15 km and cost you roughly Rs 67 per litre. Keeping in mind traveling to and from office, occasional rounds to the market, meeting friends etc. you'd easily travel about 1500 km in a month. This, over a period of 5 years, would come around to Rs 4,02,000.

Now let's look at our next cost – maintenance. If you are a safe driver, the total cost should not be more than Rs 20,000 in a year. So, over the run of 5 years, that would come around to Rs 1,00,000.

Moreover, a basic car insurance will cost you around 18000/ year. Over a span of 5 years you will probably spend Rs. 90000 over insurance.

Adding all of them:

Cost of owning a car for 5 years = Cost of the car + insurance + cost of fuel + cost

Rs 6,00,000 + Rs 90,000 + Rs 4,02,000 + Rs 1,00,000 = Rs 11,92,000

1. **Cost of taking a cab:**

This is a simple case where we can calculate total expense on cabs by taking an average cab cost ride. On an average the cab ride costs Rs.8/km. Assuming someone traveled 15000 Kms in a month, the cost for this would come down to Rs. 120000/ month. Let's extrapolate the same data over 5 years, here the cost would come out to be Rs.7,20,000.

Taking into consideration late night charges, expensive rides on special occasions etc, the amount can fluctuate between Rs 720000 - Rs 800000.

This still looks cheaper than buying a car.

2. **Comfort**

Comfort is a subjective topic. Comfortable level has its own parameters and can be defined differently by different people. Going by the general view, private cars have a better comfort level with respect to its experience, flexibility, usage, distance traveling etc.

3. **Advantages And Disadvantages:**

Travel is glorious in any form. Some people prefer traveling by car whereas some prefer to take other modes of transport that include- train, bus, bike, auto rickshaw, and others. Everything in the world has its pros and cons, and if you want to make the best decision, you should consider the good with the bad.

Advantages And Disadvantages Of Private Cars:

Flexibility

One of the most significant benefits of travelling by car is flexibility. You can stop wherever you want, take any street, any shortcut that suits your commute hours. Most people like to move at their own speed and reach their destination on time, without any haste. Whereas others like to hurry and zoom through the roads with their colleagues.

Also, travelling by your car allows you to take your kids, partner, or other family members with you. You can also drop them on your way and have an enjoyable time with them while on the go. A little fun hurt on one, just ensure the safety of everyone.

Better Views

Another benefit of travelling by car is getting to enjoy fantastic views. While you travel via public transport, you are always overwhelmed with the crowd and the hustle and bustle they bring with themselves. On the contrary, you get to enjoy your drive to work without complaining about the loud noise, while humming on your favourite songs.

Carpooling & Money Saving

Thanks to the advent of carpools, you can now pool your car with your friends and colleagues and save big on your fuel expenses. By doing this, you are not only saving money, but also contributing to a green environment and a strong companionship. Long chats with the right bunch of people are the best ones!

Disadvantages of Travelling by Car

Distances

Travelling by car is excellent, especially when you are travelling short distances. However, long trips are very tiresome and time taking at the same time. The worst part is traffic jams and streets brimming with vehicles, irresponsible drivers, and oblivious pedestrians. It becomes challenging too keep your concentration intact and drive for hours while being stuck around pollution and population alike.

Bad Weather

Another considerable disadvantage is bad weather condition as it can leave a serious impact on your journey. You should be attentive and travel with preparation if you don't want to ruin our entire day. Potholes and slippery roads are your foes in monsoon. They take a toll on your car's tyres and destroy them. It is challenging as well as dangerous. We all know that rain, storm, and snow can severely affect your driving skills and conditions.

Hidden Costs

Traveling by car is not the cheapest option. What if you need to reach for a business meeting urgently and your vehicle breaks down in the middle of your journey. You will lose your deal along with a considerable amount of money on the repair cost. You should only travel by car when it's a safe option. Lastly, in India, parking is a huge problem. Check if your office compound has a parking spot, or else driving to work will become a big problem.

Make sure your car is in excellent condition and is covered with a comprehensive car insurance policy. A car insurance policy covers your car against accidents, theft, natural calamities, and more. Buy/ renew your car insurance to have a worry-free drive.

Advantages And Disadvantages Of Cabs:

Offers

One of the main advantages of using online cab services is that the passengers randomly receive offers on their rides. These offers can be availed by putting in the correct promo code before searching for a ride online.

Choice on the type of ride

The customers can how the want to ride a car. There are options to carpool with other people as well as to hire a whole car to oneself. There is also choice on the type of car that one wants to ride. They will be charged according to their choice.

Round the clock service

People can use online cab services at any time of the day- be it early in the morning or late into the night. These cab services are available for people throughout the day and in case of emergencies when there might be no alternative way of commute.

Time Efficient

Booking a cab online takes negligible amount of time. It connects you to cabs that are nearby so that they can easily arrive at the pick-up location in no time. The customers do not have to get on the roads to hail a ride anymore.

Easier for driver to find customer

Drivers do not have to go around searching for customers, and instead they get notified on their app whenever a customer near them wants to hail a ride. If the location and time is convenient for the driver, he can accept the ride and head towards the given pickup location.

Easy access for customers

It is very inconvenient and sometimes a point of irritation when one is refused to be taken to their desired location by one cab after another. For online cab services, the driver accepts the ride to the location by himself. So, there is almost no chance of refusal.

Cashless payments

Online cab services give the option to the customer to pay online or by cash. If he doesn't have enough change, he can choose to pay online. This saves the hassle of both the customer and the driver to carry proper change.

1.4 Top Automotive Companies in India:

The top 10 Automobiles companies in India are the following:

1. Maruti Suzuki
2. Hyundai India
3. Tata Motors
4. Mahindra & Mahindra
5. General Motors India
6. Honda Motor Company
7. Hero MotoCorp
8. TVS Motor Company
9. Bajaj Auto Limited
10. Ashok Leyland

1.5 CABS

In this section we investigate two major companies in the cabs service industry to gather a better understanding for the cabs service industry's dynamics on a company by company basis.

There are multiple motivations to conduct this research in India, majorly covering states like Bengaluru, Mumbai, New Delhi etc. Bengaluru has a sizable share of users and service providers of the platform economy taxi services in India. The city of Bengaluru also acts as a regional

economy with its own economic and labor specificities with generalizable features of urban growth.

While Ola is headquartered in Bengaluru, the city is a prime market for Uber. Indian cities show great diversity for their city-based taxi presence. Cities like New Delhi and Mumbai have public hail taxis for intra-city travel regulated through city taxi scheme and through strong worker organization.

1.5.1 OLA

Ola Cabs (stylised as **OLΛ**), is an Indian ridesharing company (TNC) offering services that includes ridesharing, ride service booking, taxi and food delivery services. The company is based in Bengaluru, Karnataka, India. As of 2019, Ola was valued at about $10 billion. A variety of venture capitalists including Softbank have large stakes in the company.

In January 2018, Ola extended into its first overseas market, Australia, and in New Zealand in September 2018. In March 2019, Ola began its UK operations introducing auto rickshaws in the UK. More than 10,000 drivers have applied both in online and offline mode ahead of its launch in London.

SALES REVENUE

OLA has more than halved its consolidated losses to RS 2842.2 crore, while growing revenue by almost 61 percent during FY 2018, as per regulatory documents. OLA, which is locked in a bruising battle for market leadership in the Indian market against American rival Uber, had registered a loss of 4897.8 crore in FY 2016-17. OLA saw its consolidated revenues rising 60.9% to RS 2222.6 crore in the fiscal ended March 2018 from Rs 1380.7 crore in the previous fiscal. According to the documents filed

with the Corporate Affairs Ministry, OLA narrowed standalone losses significantly to Rs 2676.7 crore, while revenues were up 44.6% to Rs 1860.6 crore in FY2018 compared to the previous financial year.

1.5.2 UBER

Uber Technologies, Inc., commonly known as **Uber**, is an American multinational ride-hailing company offering services that include ridesharing, ride booking services hailing, food delivery,

and a micro mobility system with electric bikes and scooters. The company is based in San Francisco and has operations in over 785 metropolitan areas worldwide.

As of 2019, Uber is estimated to have over 110 million worldwide users[j]In the United States, a 67% market share for ride-sharing in early 2019 and a 24% market share for food delivery in 2018. Uber has been so prominent in the sharing economy that the changes in industries as a result of it have been referred to as uberisation, and many startups have described their products as "Uber for X".As with other transportation network companies, Uber has been criticized for unfair treatment of drivers, for disrupting the taxicab business, and for increasing traffic congestion. The company has also been criticized for its aggressive strategy in dealing with regulators and for several unlawful practices.

SALES REVENUE
- Uber's market share of the US ride-hailing market is estimated at between 65 and 69% "
- 2018 Uber revenue came to $11.3 billion – a 43% increase on 2017, while gross bookings were up 45%, to $50 billion
- Adjusted losses came to $1.8 billion in 2018; including sales of Russian and Asian business to Yandex and Grab respectively, Uber 2018 GAAP losses come to $370 million
- 2017 Uber revenue was $7.5 billion, with adjusted loss of $2.2 billion; Uber GAAP loss came to $4.5 billion in 2017
- Uber investment levels stand at $24.7 billion, pre-IPO
- Uber valuation in 2018 was $72 billion"
- Average Uber driver income is $364/month"
- US Uber and Lyft drivers' median hourly rate can be as low as $8.55"
- Uber drivers number 3.9 million worldwide"

- 27% of US UberX drivers are female"

1.6 OBJECTIVES

1. To understand the attitude of people towards private cars and cabs
2. To understand the reasons for people opting between cabs and cars
3. To analyze the factors influencing the choice of selection between cabs and cars.

1.7 SCOPE OF THE STUDY

1. The scope of the study is limited to a minimum of 50 respondents.

2. The scope of the study is open to people of different age groups

3. The data was collected from a set of working and non-working classes.

CHAPTER-2
LITERATURE REVIEW

2.1 Identifying Public Preferences

Shifting urban commuters to public transport can be an effective strategy to deal with the energy and environmental problems associated with the transport sector. In order to enhance public transport the mode of choice for urban commuters, public expectations and requirements should be at the centre of the policy-making process. This study uses pairwise weighting method (i.e. Analytical Hierarchy Process) to derive priorities for different criteria for shifting urban commuters to the public transport system based on their opinion. The primary survey has been conducted to collect the data for identifying public preferences for public transport characteristics under four parent criteria: reliability, comfort, safety and cost, identified based on literature review and expert opinion. This information was collected using questionnaire based surveys between January 2013 and July 2013 from nearly 50 locations using a stratified random sampling technique from nine districts of Delhi. Our results suggest safety as the most important criteria (36% of total) for encouraging the urban commuters to shift from private vehicles to public transport and then reliability (27%), cost (21%) and comfort (16%). Based on above four criteria, commuters were found to be happy with Delhi metro services compared to buses and other modes of public transport due to more frequency, adherence to schedule, less travel time, comfort and safety." Commuters were willing to pay more for better public transport service since the travel cost was not considered to be one of the important criteria. The results also showed that 96% commuters are willing to shift to public transport if above criteria or services are considered for providing an efficient public transport system. These results can assist transport planners to integrate public preferences with the available technical alternatives for the wise allocation of the available resources.

2.2 Emerging smart urban para-transit solutions

Highly innovative Hanif and Sagar (2016) found that taxi services in Mumbai have enormous growth potential as the needs of the business world increase around the world and even the middle class and the rich are developing day by day. As the city of Mumbai faces major parking problems, many residents prefer to call a taxi service to visit a shopping center, attend special events or even attend a night party. This service scores higher points when it takes time to find a parking spot for your own vehicle or negotiate hassles on a quiet weekend. The study shows that customer satisfaction is very high. This is a positive point for growth and expansion. Sarvepalli and Prakash (2016) have tried in their paper to cover exactly the taxi aggregation industry in India, since

innovators have innovated by providing the solution using technology. In addition, it covers the current scenario and the problems of companies and customers. Ola and Uber have changed the face of the industry. In summary, it has affected consolidation, which is slow in the industry, and only the analysis of companies that focus on the best quality of service will only do so in the future. The RIDE model is proposed for the benefit of future research and explains why continuous research is needed to understand the client and how innovation gaps can be mastered using technology in an innovative way. Companies that are adapting to changing trends as quickly as possible are those that maintain their position in the market. Venkatesh and Easaw (2015) found that the success of the taxi aggregator business model is sufficient evidence of the increasing impact of technology on the success of a company.

2.3 Travel Behavior

Many countries now have policies to reduce distances travelled by private car and to favour the use of public transport, cycling and walking. The development of compact urban forms and the design of urban communities which favour walking are seen as particularly effective strategies for reducing car dependency. The factors which determine travel behaviour are not fully understood, so that effective policies influencing travel patterns are difficult to formulate. Apart from urban form and design, personal attributes and circumstances have an impact on modal choice and distances travelled. People with higher incomes are more likely to own and use a private car than low-income households. Families with children use cars more often than one-person households. The purpose of a trip-work, shopping and leisure—also influences travel mode and distance. We used the Netherlands National Travel Survey (OVG) to explore some of these relationships in more depth. The relative importance of personal attributes and the characteristics of residential environments as determinants of modal choice and travel distance were explored. Both sets of factors maintain a clear, strong relationship with travel behaviour in multivariate models of travel behaviour.

2.4 Urban mobility at a tipping point.

Mobility has a number of substantial benefits, such as access to jobs and a sense of personal freedom. But the way it is now also carries with it persistent challenges, such as costs and congestion. We are still in the infant stages of new mobility offerings. What can be said is that consumers are learning to make trade-offs when it comes to evaluating costs, convenience, service, and time. New technologies can change behavior, and this may be happening when it comes to transport. Smartphones are already ubiquitous in developed countries and are spreading fast in

many middle- and lower-income ones. That has enabled companies like Uber or China's Didi Dache to offer on-demand mobility through apps. Other apps (see sidebar "Start-ups that are reimagining personal mobility") make it possible for travelers to plan in real time the quickest and cheapest way to get from point A to point B. In developed countries, there are subtle hints that consumer preferences and behaviors are changing. Even in the United States, where the love of the car runs deep, ownership rates are declining and drivers are driving less.

2.5 Estimating potential increases in travel with autonomous vehicles for the non-driving, elderly, and people with travel-restrictive medical conditions.

Vehicle automation can increase the mobility of currently underserved populations: non-drivers, those with restrictive medical conditions, and seniors. In this paper, we characterize each of these populations as a demand wedge and used U.S. travel survey data from the NHTS to estimate bounds on how VMT from these demand wedges could change with autonomous vehicles. The travel behavior between younger and older adults in the U.S. are quite different, although both populations rely heavily on automobiles to meet their daily transportation needs. Older adults tend to drive less than their younger cohorts and in proportion to their each cohort's population size, the percentage of overall VMT decreases with age. Elderly women in particular show a substantial reduction in VMT and at a much earlier age than men." This is very evident in the young senior cohort age group where women begin to drive about 6000 miles annually while males in the same age group drive close to 11,000 miles annually. The United States Census Bureau projects that the senior population in the U.S. will increase by about 60% by the year 2030 (U.S. Census Bureau, 2014). In 2013 there were about 43 million seniors in the U.S. (U.S. Census Bureau, 2013); if this increase occurred the senior population would increase to about 74 million by 2030. If we assume that senior drivers in 2030 continue to travel as much as senior drivers today, the population increase alone would result in a 201 billion miles or a 9.4% increase in light-duty VMT relative to 2013.The largest difference in travel behavior exists between drivers and non-drivers who, due to their inability to drive, travel far less than their counterparts within all age groups. The 2009 NHTS reports that out of 22 million adult non drivers, approximately 9 million reports having a medical condition that makes it hard to travel and because of this condition about 8 million have reduced their day-to-day travel. In comparison, there are about 200 million adult drivers in the U.S. and out of this population about 14.7 million people report having a medical condition that makes it hard to travel and because of this medical condition 11.7 million have reduced their day-to-day travel. In proportion to their total populations only about 6% of drivers have reduced their day-to-day travel because of a medical condition compared to 37% of non-drivers who have. If all three of the

demand wedges we analyzed were combined and assumed to occur simultaneously, total annual light-duty VMT by the U.S. population 19 and older would increase by about 14% or 295 billion miles. Females would make up most of this increase and the oldest senior cohort would have the largest percent increase in VMT. Working age (19–64) adults

2.6 Consumer behavior wrt E-cab

In this paper we tried to study the behaviour of consumers in e-cab hailing. It has been found that consumers' decisions are influenced by many factors such as price, discounts offered, brand of cab aggregators, choice of ride-sharing, environmental consciousness, service quality in terms of driver's performance (Smartness, Punctuality, good driving skills), physical safety, privacy, etc.In this digital era, the advent of e-wallets has replaced taxi meters resulting in a win win-win situation for customers, drivers and cab aggregators. The study reveals that e-cab hailing /ride sharing appeals to the younger generation because of less waiting time, point to point service, relief from inconvenience of parking and drink & drive. It increases mobility options for people dwelling in cities. Ride sharing seems to be complementary to the public transportation system. Besides that there are some issues faced while travelling like- Rider may face sexual harassment. Cases of misbehaving by drivers. Navigation problems due to poor GPS connectivity. As India is moving towards a digital economy, internet connectivity needs to be sorted out and data charges need to be brought down so as to make it affordable to every potential consumer. The rating of a driver is not a reliable mechanism to book a cab on this basis.

• 2.7 Economy Share

Digital marketplace platforms –usually referred to as the sharing economy– have become an essential part of the digital economy in recent years. The sharing economy is powered by applications and platforms that allow private individuals to share assets or services between them, either free or for a fee. Advocates of the sharing economy testify to its enormous economic potential across sectors such as tourism, hou-sing, transport, service provision, and finance. PriceWaterhouseCoopers (PwC) estimates the sharing economy will be worth 125B USD in the next decade. Sharing economy models will have an increasing impact on labour markets, environmental sustainability and consumption habits around the world. The sharing economy is expanding swiftly in developing countries due to a number of factors. Rapid urbanization has been matched by a growth in 'digitalization', the uptake of new technologies and a sustained rise in the use of social networks. Most sha-ring economy applications function on mobile phones, which continue to grow in use across the developing world. Largely urbanized regions in the Global South

with substantial challenges related to transport, climate change, and housing are seen as frontier markets for businesses that engage in the sharing economy. However, despite the relevance of the sharing economy to emerging economies, not much is known about its size, make-up or broader effects, as most studies have examined the sha-ring economy in North American and European contexts." As the trends of increasing connectivity, low-cost hardware and informal entrepreneurship continue to advance in the Global South, the International Development Research Centre (IDRC) has become more concerned with regulatory and inclusion challenges. Regulation of platforms such as Uber and AirBnB has become a major challenge in the developing world. As economic informality is already the norm in many places, it is not yet clear whether traditional regulation will stifle progress on normalizing the informal economy.

- **2.8 Studying Travel Behavior**

Ever-increasing pressure on household transport budgets, the proliferation of transport options directly available to customers, and a general shift in our economy towards collaborative consumption are changing the traditional transport landscape. As travel behaviour and demand evolves, new industry players are placing themselves between customers and traditional transport providers, challenging the way public infrastructure and public transport services are planned, designed, operated, regulated and funded. This disruption is preempted by a shift away from personally-owned transport modes towards mobility solutions that are consumed as a service. The concept is referred to as Mobility as a Service (MaaS) – a term that has been gaining worldwide attention under the early leadership of Northern European countries.No full-service MaaS offering exists in Indian cities that bundles public and private transport into a subscription service. It is apparent from the review of MaaS initiative around the globe that delivering MaaS products will be an evolutionary process shaped by market opportunities and supported by public sector vision. It is evident from the study that MaaS does not, and will not, constitute a one-size-fits-all solution for every context. Instead, various models are likely to emerge in each country, state, city, or place – depending on their mobility and service environments. To develop a Common MaaS model for cities it is envisaged that the public sector needs to set a clear strategic framework to have regulation at the right level and set the right policy strategy for the private sector.

• 2.9 Socio-Economic Analysis of Uber Cab Drivers

Automobile taxies have been available in India for a long time. Private cars have been prevalent relatively from a later time. Though private cars became more, the relevance of the regular taxies didn't diminish. The regular taxies remained the conventional mode of transport for those who

needed private travel at their own convenience. The regular taxies were available at their point of availability called the taxi stands. In the early days, customers had to physically go to the taxi stands to avail their service. They had to wait in a queue at a taxi bay or do the booking over the phone. And the payment was made by cash or cheque in case of higher charges. Later as the technologies in telephony grew, it became more convenient to avail them. The ease of availing the taxi services have grown to such a state today that it can be called to the place of location of the user with just the click of a few buttons on his smartphone. Such services have come to be called online taxies. Users have recognized and accepted the convenience of such services and have embraced it to such a level that users would think first of such services for any length of local travel before getting themselves to a bus shelter or a taxi stand. The payment also could be made conveniently through online payment methods. The recent years have shown the rapid growth of online taxi and its establishment as a new mode of transport. Its leverage on technology has since then become a trend in the public transport industry. There are many online taxi services in Kerala like Ola, Uber etc. Among the brands available, Uberhas emerged as a very popular mode of transportation. Uber manages its taxi service by using high speed data and the internet by giving accurate information of the available transport in the user's vicinity. Features like traffic in the area, waiting time for the taxi to arrive, details of the driver, available payment methods etc are easily available to the user. The advantage for the user is that he gets an easy ride as per his convenience. The benefit for Uber is it can manage the rides in an efficient way by identifying the proximity of the user and the available cars and thus bring the cost down. The cost reduction can be passed on to the user in the form of a low cost ride. The free time resulting from the shared information available to Uber of the car and user locations is the edge it has in the form of flexibility in managing the rides.

CHAPTER-3
RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

It is the overarching operational pattern of the project's framework that specifies what information will be collected for source by those operations.

Exploratory research design and conclusive research design are the two primary categories of research designs. Descriptive and causal/experimental research designs are two types of conclusive research designs.

The nature of the problem, as well as the technique of data collection and analysis, determines the suitability of a research design for a certain study.

For this topic, a descriptive research strategy is applicable.

3.2 RESPONDENTS

Respondents are those individuals who complete a survey or interview for the researcher, or who provide data to be analyzed for the research study. Respondents can be any age, but determined by the scope of the study, and must agree to informed consent to participate. The numbers of respondents in this research were 50.

3.3 SAMPLE UNIT

The population is from Delhi NCR region and is not limited to any age.

3.4 SAMPLING TECHNIQUE

SAMPLING METHOD-Convenience Sampling

Convenience sampling is a non-probability sampling strategy in which the samples that are taken are according to the convenience of the research conductor.

The convenience sampling technique was chosen for this study because of its speed, cost-effectiveness, and ease of availability of the sample, as well as the fact that respondents are easy to discover.

3.5 DATA COLLECTION

The methodological challenges and considerations for obtaining and handling the data utilised in the study are explained in this section. The section is divided into two sections, each of which represents

a different aspect of the data collection process. The first section offers information on data gathering technologies, while the second section contains information on the questionnaire's incorporation and structure.

3.6 DATA COLLECTION TOOLS

I have used -

- **Primary**

Primary data is information that has never been published before and has never existed before. Primary data is gathered with a specific goal in mind, namely, to be critically analyzed.

In order to establish facts regarding the topic, this study employs a quantitative research method (questionnaire).

The purpose of a structured questionnaire is to obtain information on people's intentions and attitudes concerning Chatbots. A questionnaire is a method in which series of questions are asked to collect information

Primary data was collected through a formal questionnaire, addressed to the students of Matric, 10+2, Graduate And Postgraduate in Delhi NCR region.

The questionnaire was distributed through an online link to ensure a high response rate. The students were briefed about the purpose of the survey. The questionnaire was divided into four data capturing sections:

1. The age of the respondents
2. The gender of the respondents..
3. The occupation of the respondents
4. The education qualification of the respondents.

Sampling technique: convenience sampling

Sampling unit:

(a) Matric

(b) 10+2

(c) Graduate

(d) Postgraduate

Sample size: 50 respondents

Research location: Delhi NCR

- **Secondary**

Secondary data includes information from already published papers, reports etc. Various publications, journals, articles about the issue under investigation, and other online resources were used.

3.7 Data Analysis Tool

The information collected from the questionnaire was subjected to statistical analysis. It is coded, collated, tabulated, employing bar graph frequency and percentages to analyze the data and derive results.

3.8 Questionare

Questionnaire was prepared keeping objectives in mind. The structured questionnaire comprises of total 10 questions.

CHAPTER-4
ANALYSIS AND INTERPRETATION

Analysis of data is very important as it brings us very important information regarding the various researches . Analysis is done through various statistical tools like graphs, pie charts and tables. Proper sample size is taken and then the desired output is obtained . For this research statistical tools bar graphs, pie charts and histograms are used .The survey is conducted with 60 people . All the information is authentic and genuine given by actual people.
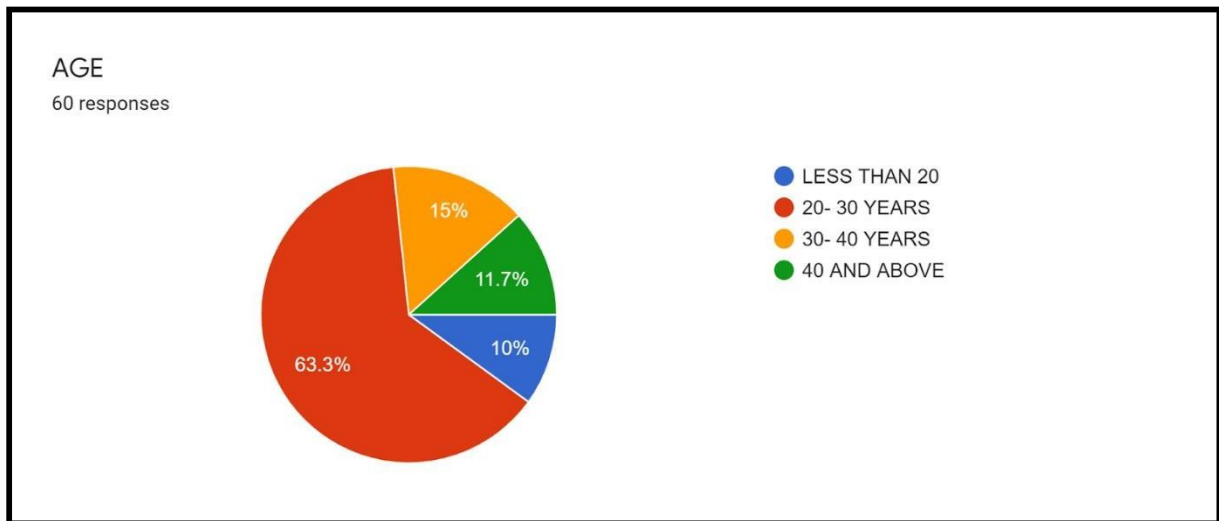
Chart No.1- Age of Respondents

Fig 1 (Source: Own Analysis)

The pie chart above depicts the age group of people who have filled this particular form. Out of 60 people 10% people age are from less than 20 years 63.3% people age from 20 to 30 years of age, 15% people age from 30 to 40 years and 11.7% people from age 40 and above.
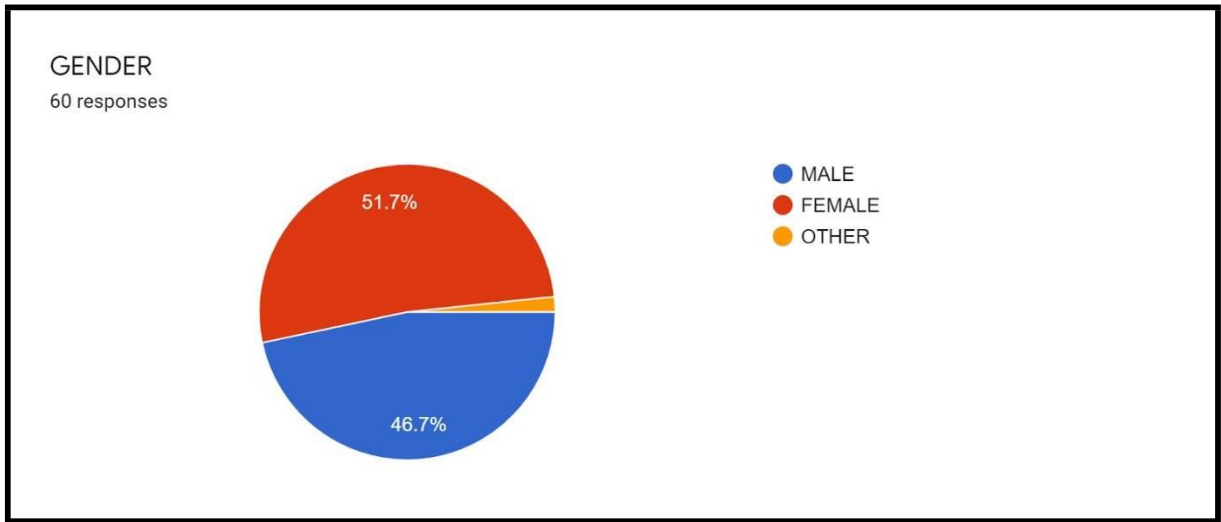
Chart No.2- Gender of Respondents

Fig 2 (Source: Own Analysis)

The pie chart above depicts the gender of people who have filled up this form which consists of male and female members. 51.7% people are female members and rest 46.7% people are male members out of 60 people who have filled this form.

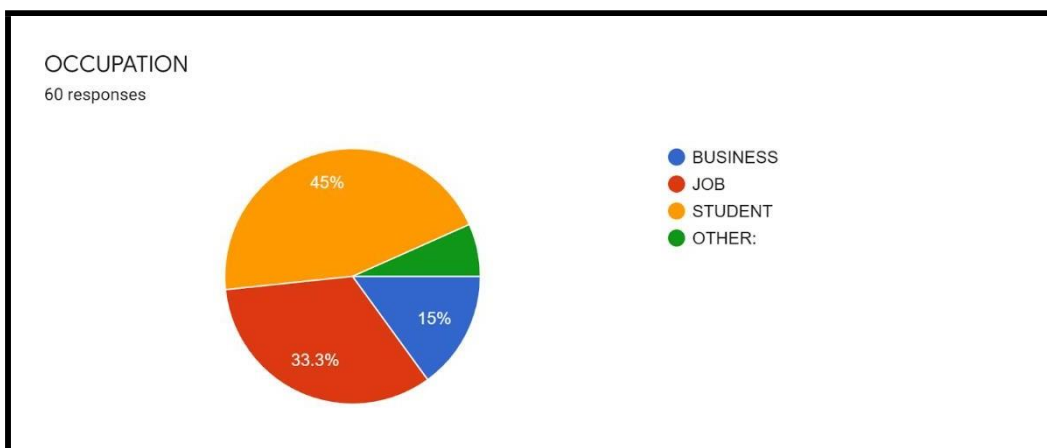## Chart No.3- Occupation Of Respondents

Fig 3 (Source: Own Analysis)

The above chart depicts the occupation of people i.e. 45% people are students, 33.3% people are job workers, 15% people are businessmen, 6.6% are others.

Chart No.4- Education Qualification Of Respondents
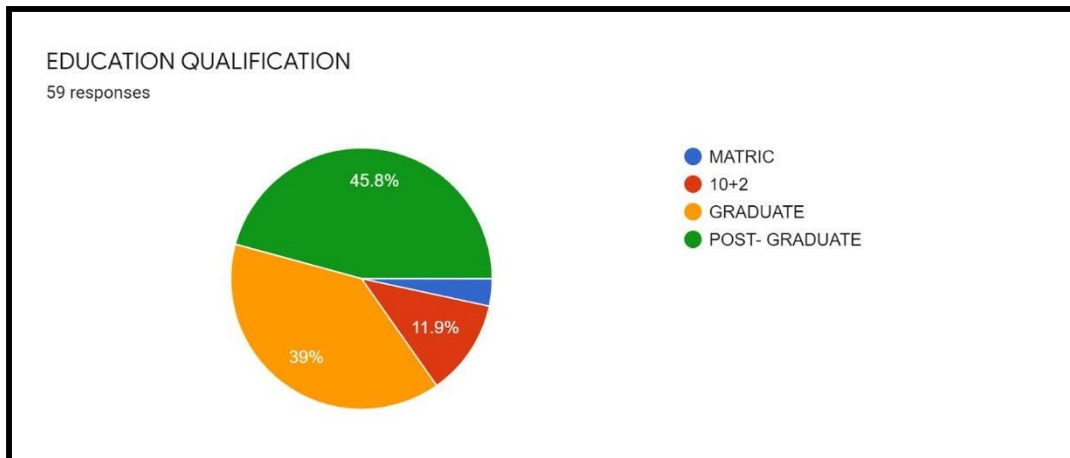
Fig 4 (Source: Own Analysis)

The above chart depicts the education qualification of people who have filled this particular form. Out of total people 39% are graduates, 45.8% people are post graduates, 3.4% people are matrices and the rest 11.9 % people are 10+2 .

Chart No.5- System Of Transportation Preferred By Respondents
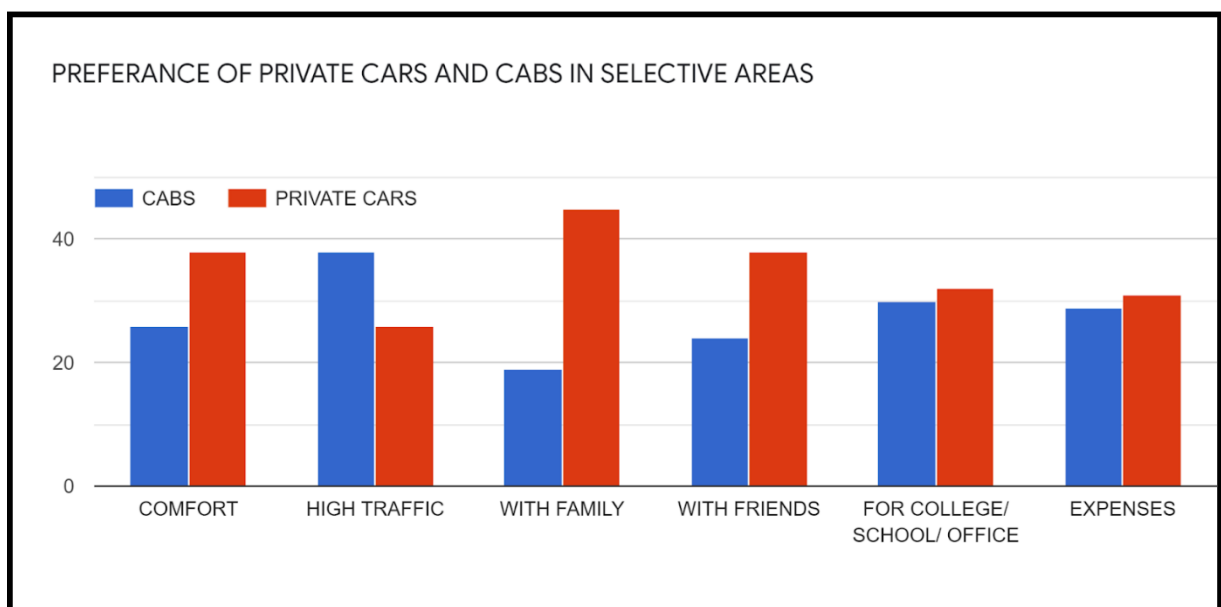
Fig 5 (Source: Own Analysis)

The above chart shows preference of respondent's basis different parameter likes comfort, expenses, high traffic area etc.

Chart No. 6- Satisfaction Of Respondents By Their Private Car

Fig 6 (Source: Own Analysis)

The above graph depicts the satisfaction level of people for private cars. 1 depicts least satisfied i.e. 0% and 5 depicts highly satisfied i.e. 48.3% people.

Chart No. 7- Satisfaction rate of cabs
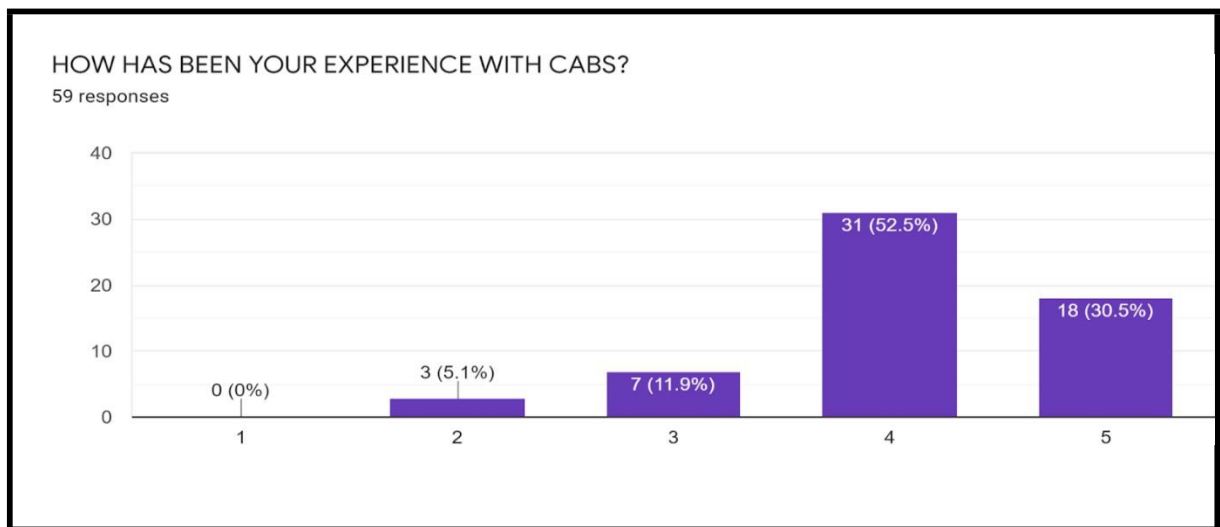
Fig 7 (Source: Own Analysis)

The above graph depicts the satisfaction level of people for cabs. 1 depicts least satisfied i.e. 0% and 5 depicts highly satisfied i.e. 30.5 % people.

Chart No.8- Type Of Transportation More Suited For Metropolitan City
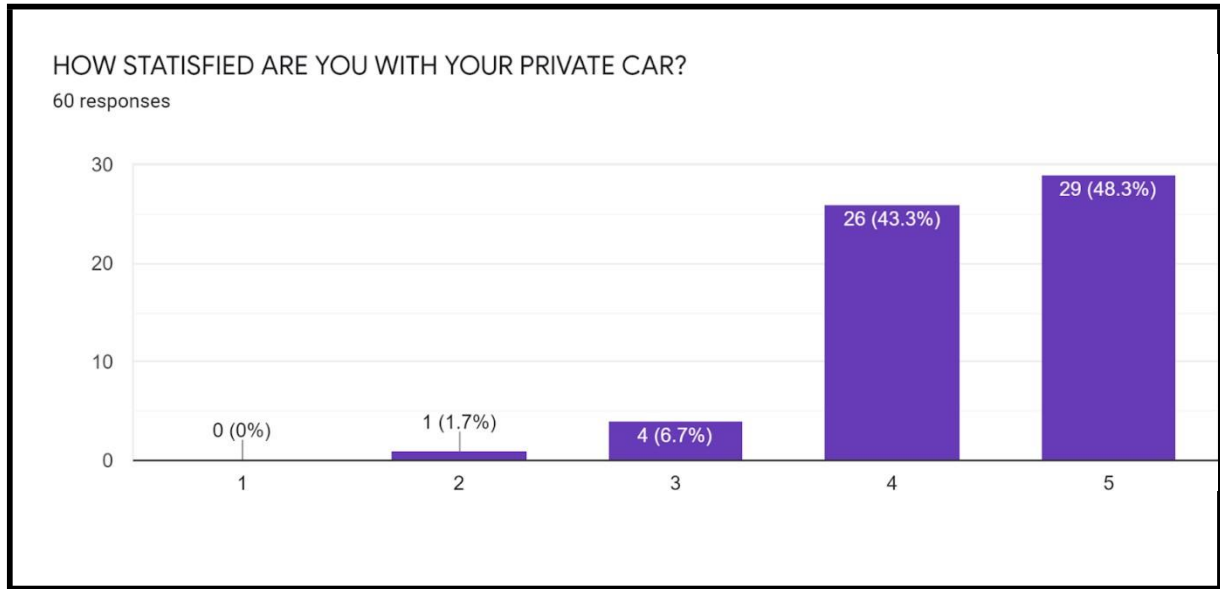

WHICH TYPE OF TRANSPORTAION IS BETTER FOR METROPOLITIAN CITY
60 responses

- PRIVATE CARS
- CABS

55%

45%

Fig 8 (Source: Own Analysis)

The above chart depicts the system of transportation people find more effective i.e. private cars or cabs. Out of 60 respondents 45% percent people prefer private cars and 55% people prefer cabs.

Chart No.9- Type Of Transportation Which Is More Preferred

WHICH SYSTEM OF TRANSPORTATION DO YOU PREFER?
60 responses

- CABS
- PRIVATE CARS

43.3%

56.7%

Fig 9 (Source: Own Analysis)

The above chart depicts the system of transportation people prefer i.e. private cars or cabs. Out of 60 respondents 43.3% percent people prefer private cars and 56.7% people prefer cabs.

Regression Analysis

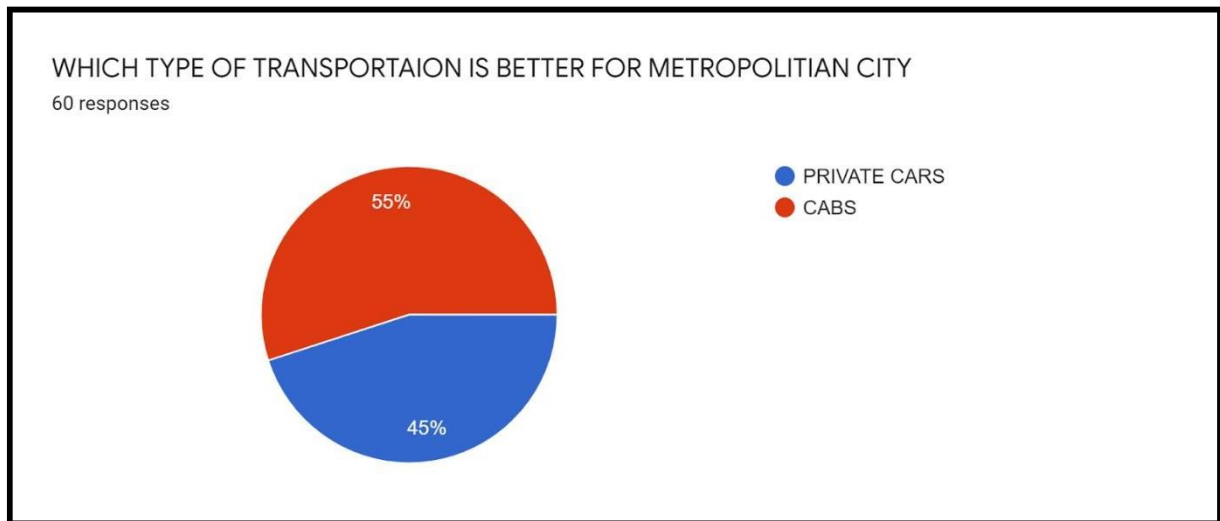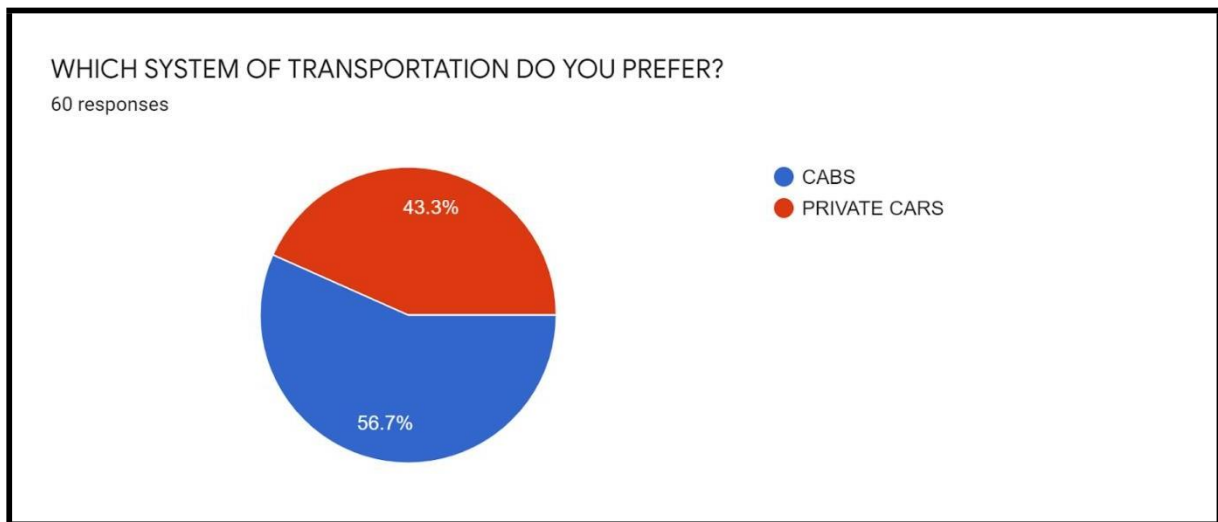H1 = Satisfied level of private cars is influenced by the gender of the individual.

H0 = Satisfied level of private cars is not influenced by the gender of the individual.

Descriptive Statistics

	Mean	Std. Deviation	N
HOW SATISFIED ARE YOU WITH YOUR PRIVATE CAR?	4.38	.697	58
HOW HAS BEEN YOUR EXPERIENCE WITH CABS?	4.07	.792	58

Fig 10 (Source: Own Analysis)

Correlations

		HOW SATISFIED ARE YOU WITH YOUR PRIVATE CAR?	HOW HAS BEEN YOUR EXPERIENCE WITH CABS?
Pearson Correlation	HOW SATISFIED ARE YOU WITH YOUR PRIVATE CAR?	1.000	-.176
	HOW HAS BEEN YOUR EXPERIENCE WITH CABS?	-.176	1.000
Sig. (1-tailed)	HOW SATISFIED ARE YOU WITH YOUR PRIVATE CAR?	.	.094
	HOW HAS BEEN YOUR EXPERIENCE WITH CABS?	.094	.
N	HOW SATISFIED ARE YOU WITH YOUR PRIVATE CAR?	58	58
	HOW HAS BEEN YOUR EXPERIENCE WITH CABS?	58	58

Fig 11 (Source: Own Analysis)

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	HOW HAS BEEN YOUR EXPERIENCE WITH CABS?[b]	.	Enter

a. Dependent Variable: HOW SATISFIED ARE YOU WITH YOUR PRIVATE CAR?

b. All requested variables entered.

Fig 12 (Source: Own Analysis)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.176[a]	.031	.014	.692

a. Predictors: (Constant), HOW HAS BEEN YOUR EXPERIENCE WITH CABS?

Fig 13 (Source: Own Analysis)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.852	1	.852	1.780	.188[b]
	Residual	26.803	56	.479		
	Total	27.655	57			

a. Dependent Variable: HOW SATISFIED ARE YOU WITH YOUR PRIVATE CAR?

b. Predictors: (Constant), HOW HAS BEEN YOUR EXPERIENCE WITH CABS?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.008	.480		10.440	<.001
	HOW HAS BEEN YOUR EXPERIENCE WITH CABS?	-.154	.116	-.176	-1.334	.188

a. Dependent Variable: HOW SATISFIED ARE YOU WITH YOUR PRIVATE CAR?

Fig 14 (Source: Own Analysis)

The analysis table explains the relationship between individual's gender and their satisfaction level with their private cars. Basis the analysis we have done it can be said that we will accept the hypothesis and reject the null hypothesis.

Therefore, as per the analysis the choice between private car and cab is dependent on the gender of an individual.

CHAPTER-5
FINDINGS AND SUGGESTIONS

FINDINGS

● A total of 60 people filled in this questionnaire out of which 51.7% people are female while 46.7% people are male. Both male and female respondents played an active role in filling up this particular form.

● The age group of people who filled in this form were mostly from 20 to 30 years which were a majority in filling up this form that is 63.3%. While others were from below 20 years, 30-40 years and above 40 years of age. They were cautious about the topic.

● The people who filled this form were having various occupations that are business 15%, job 33.3%, student 45%, others 6.3%. Mostly students participated actively in filling up the forms.

● The education qualifications of people were mostly Graduates comprised 39% of people, 10+2 were 11.9%, matrices were 4 % and postgraduate were 45%.

● The type of transportation which is better in metropolitan according to the respondents is Private cars that is 55% people think that private cars are effective while 45% people think that cabs are effective. According to the analysis private cars are more effective.

● The type of transportation which is more preferred according to the respondents is cabs that is 56.7% people think that private cars are convenient while 43.3% people think that cabs are convenient. According to the analysis private cars are more convenient.

● According to preference of private cars and cabs in selective areas. People prefer private cars in comfort, cabs in high traffic, private cars with family, private cars with friends, cabs in college/school/offices.

SUGGESTIONS

● According to respondents their level of satisfaction was not at all high for cabs so, for this cabs companies like UBER/OLA should keep regular checks on the feedback which is being given by the customer, further decisions should be made according to the feedback which they receive and the pickups of the customers should be according to the scheduled timings this also improves level of satisfaction for customers.

● According to respondents, when they travel with friends they prefer more private cars rather than cabs, for this the cabs companies can give extra discount offers to the children who are in school/colleges ,as to attract more of their customers from this section of the society.

● According to respondents they found that private cars are more convenient than cabs, so for this the cabs companies should improve their cabs conditions and should choose those drivers which are more customer friendly.

● Respondents also find cabs as less attractive as compared to private cars, so for these cabs companies can have a small screen at the back seat of the driver seat by which many customers can enjoy their favourite shows, movies while traveling. Some companies have also started adopting this type of strategy.

● The main attraction, convenience for the customers for cabs will be when their cabs are on scheduled timings and they also drop their customers at the correct drop off area, this would increase the amount of customers for cab companies and thus the usage of cabs can be increased.

CHAPTER-6
CONCLUSIONS AND LIMITATIONS

6.1 CONCLUSION

People have various choices and methods to deal with transportation systems. But here we deal with a comparative study of consumers preferring private cars or cabs. Both these types of transportation systems help to travel from one place to another . So here we have done an analysis on various people' s preference on the type of transportation they chose, that is private cars or cabs. So here we have done an analysis of 60 people in total by asking them to fill a questionnaire. Both men and women were generous enough to fill the response. The age group varied across all agr groups. The people filling the questionnaire were business owners, students, job workers and others. Private cars are the type of transportation people mostly prefer rather than cabs. Some people are shifting from private cars to cabs slowly and gradually . Some people are more satisfied by private cars than cabs. When we talk about the preference of private cars and cabs in selective areas, people prefer more private cars in regard to comfortness rather than cabs, people prefer more cabs in high traffic, they prefer private cars while travelling with family, friends and they prefer cabs while travelling to schools,offices and offices. So for this we can say there are people who prefer less cabs over private cars,so the solution to my third research objective will be that cabs companies have to come with new strategies to attract new customers, they should provide discounts to students and there should be an overall decrease in the price of booking cabs. Both Private cars and cabs are a good system of transportation so there should be a balance of customers in both sectors, so Cabs should attract more customers towards it. As we know the population and pollution is more in Delhi and if each person will use his/her own private car while travelling, this would increase pollution and traffic on the roads which leads to mental sickness, so this is the best time for cabs companies to boost at this time and make new customers. All the objectives are achieved and analysis has been done in the project and it is concluded that consumers prefer private cars transportation rather cabs transportation.

6.2 LIMITATIONS

1. Sample size may be too small to replicate the wide demography.

2. Respondents may not fill the Questionnaire correctly..

3. May be a deficiency of a particular set of Questions in Questionnaire.

4. Lack of accurate data due to company secrecy.

Despite the above limitations, a genuine attempt has been made to ensure the above presented and not experienced in the study.

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Survey Form

A comprehensive study on consumers preferring cabs or private cars.

NAME

Short answer text

AGE

○ LESS THAN 20

○ 20- 30 YEARS

○ 30- 40 YEARS

○ 40 AND ABOVE

GENDER

○ MALE

○ FEMALE

○ OTHER

OCCUPATION

○ BUSINESS

○ JOB

○ STUDENT

○ OTHER:

EDUCATION QUALIFICATION

( ) MATRIC

( ) 10+2

( ) GRADUATE

( ) POST- GRADUATE

PREFERANCE OF PRIVATE CARS AND CABS IN SELECTIVE AREAS

	CABS	PRIVATE CARS
COMFORT	☐	☐
HIGH TRAFFIC	☐	☐
FAMILY	☐	☐
FRIENDS	☐	☐
COLLEGE/ SCHOOL/ OFFICE	☐	☐
EXPENSES	☐	☐

HOW STATISFIED ARE YOU WITH YOUR PRIVATE CAR?

	1	2	3	4	5	
NOT SATISFIED	◯	◯	◯	◯	◯	SATISFIED

HOW HAS BEEN YOUR EXPERIENCE WITH CABS?

	1	2	3	4	5	
NOT HAPPY	◯	◯	◯	◯	◯	HAPPY

WHICH TYPE OF TRANSPORTAION IS BETTER FOR METROPOLITIAN CITY

○ PRIVATE CARS

○ CABS

WHICH SYSTEM OF TRANSPORTATION DO YOU PREFER?

○ CABS

○ PRIVATE CARS

HOW SATISFIED ARE YOU WITH YOUR PRIVATE CAR IN TRAFFIC?

	1	2	3	4	5	
NOT SATISFIED	○	○	○	○	○	SATISFIED