A STUDY ON SHIFT IN CONSUMER BEHAVIOUR – Public Transport

Project Report
Submitted By
ANUSHKA P MENON (Reg. No: SB20BMS009)

Under the guidance of
NAMITHA PETER

In partial fulfilment of the requirements for award of the degree of

Bachelor of Management Studies (International Business)

ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM

COLLEGE WITH POTENTIAL FOR EXCELLENCE
Nationally Re-Accredited at 'A++' Level (Fourth Cycle)

March 2023

II

March 2023

ST. TERESAS COLLEGE (AUTONOMOUS), ERNAKULAM,
KOCHI – 682021

ST. TERESA'S COLLEGE
(AUTONOMOUS)
ESTD 1925

CERTIFICATE

This is to certify that the project entitled "A study on shift in consumer behaviour – Public transport", has been successfully completed by Ms. Anushka P Menon, Reg. No. SB20BMS009, in partial fulfilment of the requirements for the award of degree of Bachelor of Management Studies in International Business, under my guidance during the academic year 2020-2023.

INTERNAL FACULTY GUIDE
Ms. Namitha Peter

Date: 19/4/23

Valued
19/4/23

ST. TERESA'S COLLEGE ERNAKULAM
DEPT. OF STUDIES

III

DECLARATION

I, Anushka P Menon, Reg. No. SB20BMS009, hereby declare that this project work

entitled "A study on shift in consumer behaviour – Public transport" is my original work.

I further declare that this report is based on the information collected by me and has not previously been submitted to any other university or academic body.

Date 19/4/2023

ANUSHKA P MENON
Reg. No: SB20BMS009

ACKNOWLEDGEMENT

First and foremost, I would like to thank God Almighty for giving me the strength, knowledge, ability and opportunity to undertake this project work and complete it successfully.

I extend my sincere gratitude to the Director of the college, Rev. Dr. Sr. Vinitha (CSST), the Principal of the college, Dr. Alphonsa Vijaya Joseph and all the faculty members of the Department of Management Studies for their overall guidance, inspiration and suggestions throughout my project work.

I wish to express my heartfelt thanks to the Head of Department, Ms. Megha Mary Micheal and my Project Guide, Ms. Namitha Peter, for their persistent help, guidance and encouragement. Their valuable comments and insights have greatly benefitted me and helped me complete the project successfully.

My acknowledgement would be incomplete without thanking my parents, friends and everyone who have directly or indirectly helped me for completing the project in time and thereby making it a success.

EXECUTIVE SUMMARY

In this report, the researcher has attempted to understand the reason for the shift in consumer behaviour from public transport to Kochi Metro. The researcher used convenience sampling for the study which was mainly carried out on the customers who use public transports as a way to commute. The sample size of this study is 160 and data was collected using self-administered questionnaires.

In today's scenario, it is important for various public transports to analyse the needs and want of the customers and act accordingly. Customers are open to lot of options and they are free to choose which ever public transport to commute. So, it is the responsibility of the various agencies, to promote their mode efficiently.

The primary objective of the study is to understand the main cause of the shift and to understand the various factors that influence their behaviour change.

To support the primary objective, many secondary objectives were established which helped in getting a deeper understanding of the topic. The researcher has tried to understand the causes for the shift. Moreover, the tests used in this study has helped the researcher understand the reason for the shift more clearly.

As a result of this study, the researcher has also stated few suggestions which could be beneficial to both Kochi Metro and other public transports.

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION TO THE STUDY

Transportation Industry - The deliberate movement of people, animals, and products from one place to another is referred to as transport. Transport methods include cable, pipeline, space, land, water, and the air. Infrastructure, transportation, and operations make up the field.

Passenger Transport - the demand for passenger mobility continues to increase worldwide. There is a need for good and comprehensive data on passenger mobility in order to develop sustainable passenger mobility systems.

Contrary to private transportation, which is typically managed on a schedule, operated on predetermined routes, and charges a posted fee for each trip, public transportation is a system of group travel available for use by the general public. It is also known as public transportation, public transit, mass transit, or simply transit.

City buses, trolleybuses, trams (or light rail), passenger trains, fast transit (metro/subway/underground, etc.), and ferries are examples of public transportation. Airlines, buses, and intercity rail dominate intercity public transportation. Many regions of the world are building high-speed rail networks.

The Kochi Metro is a rapid transit system serving the city of Kochi in Kerala, India. It was opened to the public within four years of starting construction, making it one of the fastest completed metro projects in India. The Kochi metro project is the first metro in the country which connects rail, road and water transport facilities. In October 2017, Kochi Metro was named the Best Urban Mobility Project in India by the Urban Development Ministry, as part of the Urban Mobility India (UMI) international conference hosted by the ministry every year.

It is the world's first rapid transit system whose entire management operations are handled by women. The system is also involved in sustainable initiatives with the introduction of non-motorized transport corridors in the city, installation of solar panels for power and vertical garden on every sixth metro pillar.

1.2 RESEARCH PROBLEM

There has been a shift in the consumer behaviour from motorised public transport to heavy rail or metro. So, this study will help the researcher to find the major reasons behind this shift and why consumers do or does not choose metro over motorised public transport.

1.3 LITERATURE REVIEW

The researcher reviewed several articles. Few of them are;

- An article by Taha Ansari on Sustainable Metro Railway Service for Sustainable India. This article talked about the relevance of metro and the sustainability aspects of it.
- Kochi Metro ridership improvement survey conducted by Dr D Dhanuraj was helpful in understanding various topics like; non metro users, satisfaction of metro users, etc.
- A recent article by Times of India talked about the concern KMRL had when the number of private buses reduced. It talks about the co-dependency of Kochi Metro and Private buses. People from interior regions often used private buses to reach the nearest metro station and the reduced number of private buses would force these people to use their private vehicles.
- The Times of India article also talked about the rise in price of diesel and how that has led to a decrease in the number of private buses. (Article by Greeshma Gopal Giri, 2018)
- “A first for Kochi” was mentioned in an article on The Hindu, where Mr. Hibi Eden said, “With the impending launch of the Water Metro service, Kochi will become the first city in Asia with a multi-modal transport system linking metro, water metro and road transport. Through this initiative, we want to make public transport the preferred choice for Kochiites and visitors.” This article discusses Kochi Metro's efforts at diversification.

- The New Indian Express recently published a story with the headline Missing in Kochi: Public Transit. The city is undergoing a particularly challenging period in terms of transportation infrastructure, it was stated. Private buses are being taken off the road as fuel prices rise, and Kochi Metro trains, which were introduced on the busiest route, are unable to draw in the people who have quit using the buses.

  In practise, as the days pass, the city becomes more packed with private vehicles, and the level of traffic congestion rises. (Article by Anupama Mili, 2022)

- According to an article in Scienedirect, Customer Satisfaction Surveys (CSS) have become an important tool for public transport planners, as improvements in the perceived quality of certain service attributes can lead to greater use of public transport and lower traffic pollution. The literature shows that the importance of quality attributes has until now been estimated indirectly, as they are derived from the Customer Satisfaction Index using various different and complex techniques.

- An article in Insight success, talks about the importance of transportation and logistics in India. The role that transportation plays in logistics system is more complex than carrying goods for the proprietors. Its complexity can take effect only through highly quality management. By means of well-handled transport system, goods could be sent to the right place at right time in order to satisfy customers' demands. It brings efficacy, and also it builds a bridge between producers and consumers. Therefore, transportation is the base of efficiency and economy in business logistics and expands other functions of logistics system. In addition, a good transport system performing in logistics activities brings benefits not only to service quality but also to company competitiveness.

- In order to fully realise the promise of public transportation, the article – How to make public transport an attractive option in your city, introduces the necessary infrastructure, service concerns, network planning, and public message. It was revised in 2021 after being initially published in 2019.

Every plan to reduce emissions in the transportation sector must include successful public transportation. It is a public good that improves social inclusion, local and national economies, and transportation efficiency while reducing pollution. Cities must effectively design the service and get through physical and cultural constraints - especially in the wake of COVID-19's disruption - in order to make public transportation an appealing and regular option for inhabitants. High-quality public transportation services cover popular routes and are dependable, frequent, swift, comfortable, accessible, practical, inexpensive, and safe.

The core consideration for analysis is:

- Current and future in-demand travel routes (including journeys currently taken by car).
- Existing service frequency.
- Existing service capacity.
- Journey speeds.

This analysis should inform decisions such as where new bus routes should go, or how many buses should operate on them at different times of day.

Cities can benefit from modern technology and software, such as GPS and automatic fare collection systems, which make it easier and cheaper for transit planners to harness rich data. Cities should complement quantitative data with nuanced qualitative data about users' public transport experience.

Analysis should be ongoing to enable the public transit network to develop alongside other changes in the city – too often routes and services remain static.

- Transportation agencies must make an effort to get through the typical cultural obstacles that prevent individuals from using public transportation. These will vary depending on the city, but they may include notions that public transportation is "just" for those with low incomes or that it isn't stylish.

Slick and clever public relations strategies are used by automakers and new private automobile rental companies to market their goods and services. The same should be done by public transit companies to enhance the public's perception of their offerings, boost patronage, and boost fare revenues.

Marketing initiatives should feature success stories of those who have benefited from using public transportation. Also, they must to be in line with an effective branding plan that gives the public transportation system a distinct and appealing public image.

For instance, in Gothenburg, the general public. (How to make public transport an attractive option in your city, 2019)

- Make use of new technologies and apps

Transit agencies can make use of new technologies, such as smartphone applications, to make their services more fashionable and easier to use. At the same time, it will improve data collection, user perception of the service and reduce operational costs.

- During the COVID-19 pandemic, Auckland's transport operator issued an app to inform passengers whether an approaching bus or train had space for the recommended 2 metres of social distancing.[14] These kinds of tools can help outside of a pandemic by helping public transit users to avoid busy buses and train carriages.

- Dar es Salaam's DAR City Navigator app provides users with real-time information on multiple transit modes, allowing travellers to plan journeys in advance rather than simply hoping for the best when they set out for work.

- Bogotá's Safetipin app allows women to rate their perception of personal safety on the transit system. This geo-referenced data will then be used by the city to design and prioritise interventions to improve the transit system and other public spaces. Quito is also using technology to combat a persistent issue of sexual harassment in the public transport system. Following research into the problem, victims of harassment can send a simple SMS message to alert the driver and set off an alarm inside the bus, after which the police or other authorities can get involved. (How to make public transport an attractive option in your city, 2019)

- In Europe, the transition towards clean and zero-emission technologies is now a reality for cities and bus operators, especially after the EC Clean Vehicles Directive entered into force in August 2021, setting mandatory targets for the procurement of new buses. Up to the challenge, the bus sector is demonstrating strong commitment to the decarbonisation goals and is embracing clean technologies and innovation whilst investing in substantial fleet renewal in many of our cities.
- In this light, UITP is launching a new survey to collect data on energy transition plans and adoption of clean buses in Europe.
- An article on City public transportation developments in India by Jaspal Singh,2016 talks about India's transport problems.
- Indian cities are dealing with a wide range of problems, including severe traffic congestion, declining air quality, rising greenhouse gas (GHG) emissions from the transportation sector, rising road accidents, and an explosive rise in the number of private vehicles, even with the current size of the urban population (largely motorcycles). With the urban population expected to more than double in the following generation, the situation could quickly spiral out of control and obstruct India's efforts to progress economically.
- Rapid motorization has increased per capita travels, increased travel times, and severe congestion. The diversity of vehicles that use Indian roadways and share the same road space is also well-known. Bicycles, cycle-rickshaws, auto-rickshaws (or "tuk-tuks"), motorbikes, cars, buses, and trucks are just a few of the approximately 32 different types of vehicles in India.
- In India, the percentage of public transportation is declining. In March 2016, the federal government released the results of the latest Census 2011 statistics regarding the means of transportation people use to commute to work. In the absence of suitable transportation options, the poll found that more than 50% of the workforce (excluding domestic and agricultural workers) still works from home or commutes on foot to their place of employment. Private transportation is primarily relied upon by citizens. Just 18.1% of work journeys are made using public transportation.
- According to the research, both rural and urban Indians rely heavily on private mobility options including bicycles (26.3 million) and motorbikes (25.4 million) due to a lack of public transportation infrastructure. Compared to buses, motorbikes are used by more people (22.9 million). On the basis of an increase in vehicle registration, there were 35 million daily journeys made on motorcycles for commuting in 2015 (personal excursions excluded).

- In urban areas, buses are the most widely used and practical form of transportation. In India, there are more than 1.6 million registered buses, and the public bus sector runs 170,000 of them, carrying around 70 million passengers daily. However, the rising demand for travel has not been met by bus service.
- The government launched the full indigenous retro-fitted electric bus, converting existing conventional fuel buses into electric buses, developed by KPIT Technologies and Central Institute of Road Transport (CIRT).
- One of the Big Four accounting firms is the international professional services network KPMG International Ltd (often known as KPMG).
- KPMG, a network of firms in 145 countries with over 265,000 workers, has its headquarters in Amstelveen, the Netherlands, even though it was founded in London, England. It offers three lines of services: financial audit, tax, and advising.

  It also categorises its tax and advising services into different service groups. The firm's global network of affiliates has been embroiled in legal proceedings as well as regulatory measures during the past ten years.
- KPMG, or Klynveld Peat Marwick Goerdeler, is the name of the company when KMG (Klynveld Main Goerdeler) and Peat Marwick combined in 1987, the initialism was chosen.
- The Mobility and Logistics Services group supports customers across the whole life cycle of creating a transportation system and providing mobility & logistics services for end-users of both passengers and cargo, respectively. Collaboration with subject matter experts, the use of technology, and the prioritisation of projects all contribute to convenient, inexpensive, and sustainable connectivity. Our experts assist clients in modernising and accommodating the movement of people and freight by facilitating the design, delivery, and maintenance of transportation infrastructure and related systems.
- With a dynamic mix of experts in strategy, development, delivery, asset management, investment, and technology, KPMG's Mobility & Logistics team in India continuously delivers end-to-end value-added services.
- Our professionals work diligently to provide tailored services for clients that take into account the most recent market and technological developments as well as the sustainability factor. We have an advantage because of our capacity to closely connect with the client's organisational culture, governance, and management procedures.

1.4 SCOPE OF THE STUDY

- The study will be conducted on consumers who uses public transports to commute on a daily basis.
- This research will be useful to find the reasons behind the shift in consumer preference and what factors influences them to choose a mode of transport over the other.

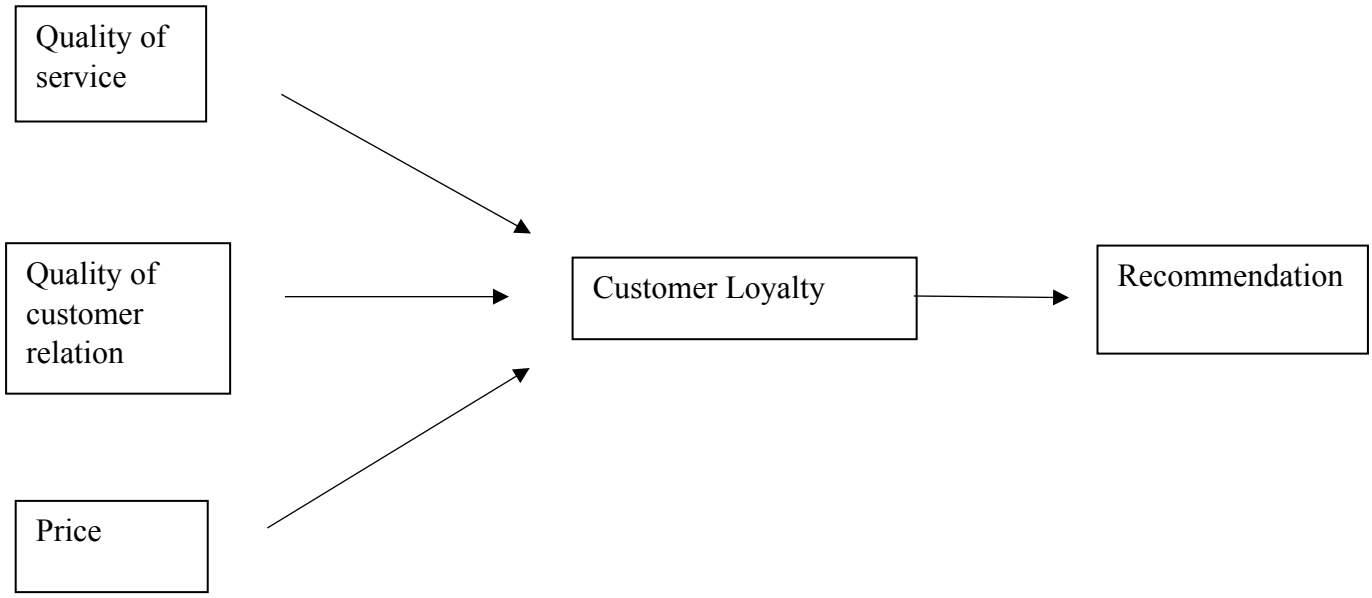
1.5 OBJECTIVES OF THE STUDY

- To find out the reason why consumers choose metro or motorised public vehicles to travel.
- To understand the psychological and physical influences on people for preferring one mode over the other.
- To compare the pros and cons of both type of transport.

1.6 RESEARCH HYPOTHESIS

H(1): Quality of Service influences Customer satisfaction
H(2): Quality of Customer relations influence Customer satisfaction
H(3): Price has an impact on Customer satisfaction
H(4): Customer satisfaction effect Customer loyalty

1.7 CONCEPTUAL MODEL



1.8 RESEARCH METHODOLOGY

1.8.1 Data Collection

When it comes to data collection, there are two methods that are generally used by researchers to collect data. These methods are Primary data collection methods and Secondary data collection methods. Primary data collection methods include collection of data through observation, questionnaire, case studies, projective techniques and schedules. Secondary data is one that already exists and it may be collected through published or unpublished sources. Published sources include publications by the government, public records, records held by

banks etc. Unpublished sources include data from letters, diaries unpublished biographies and work etc.

The tool used by the researcher for the data collection to understand the factors influencing perception of customers, was through questionnaires.

Secondary data in research was used to find out about the industry's profile and the company's profile. It was also used in the introduction of study and literature review. All secondary data related information has been collected from previously done research papers and credible internet websites.

1.8.2 Sampling Method

1.8.2.1 Population-

Population is a collection of the elements which has same or other characteristics in common. The number of elements in the population is the size of the population. In this survey, the population comprises of the consumers who commute using Public Transport and Kochi Metro.

Keeping in view the limitation of the time and resources, the sample size taken is 160 respondents.

Questionnaires were distributed to the respondents and enough time was given to fill questionnaire to reduce sampling errors.

1.8.2.2 Sample and Sampling Technique-

The sample of this study is 160 respondents. They are consumers who belong to different income and age groups. The study was conducted for a period of 30 days.

The study uses convenience sampling techniques which is a type of non-probability sampling technique. It involves selecting the sample population from a pool of conveniently available respondents.

1.8.3 Tools used for Data Collection

The questionnaire is carefully designed to meet the requirements of the research. Most of the questions are constructed using five-point Likert Scale. There are also nominal scale questions and ratio scale questions.

1.8.4 Data Analysis Technique

The entire data has been analysed using SPSS software package. The tools used in the analysis in SPSS are as follows:

- Cross Tabulation and Chi-square
- Independent Sample T-test
- One Way ANOVA
- Correlation

1.9 Limitations of the study

- Many respondents, especially men, were reluctant to take the survey
- Non metro users did not find the study useful
- Insincere responses
- Time constraints were one of the major limitations as research activities were done alongside academic activities.
- Cost was another limitation of the study
- The sample size is very small and has only a very small proportion of the entire population.

CHAPTER 2

INDUSTRY PROFILE AND COMPANY PROFILE

2.1 Transportation Industry

The term "transportation industry" refers to any business, industry, or establishment used to move people or things from one location to another via road, rail, air, or water, as well as all operations and services related to that. It also includes the storage or warehousing of goods or things, as well as the repairing, parking, renting, maintaining, or cleaning of vehicles.

The transportation industry had trouble brewing before anyone heard of COVID-19. The pandemic has simply taken just a few weeks to expose underlying inefficiencies the sector has never fully addressed. There is an opportunity for many who choose to address these.

Deloitte estimates that by the time 2020 ends, up to 45 percent ($30 billion) of the transportation industry's operating profits could be destroyed. That’s the equivalent of one-quarter of its companies’ operating profits. But the transportation industry was under pressure well before COVID-19. COVID-19 has simply exposed longstanding challenges, such as the following:

- **Customer expectations** for speed, and service and the implications for localized distribution
- **Inefficiencies and congestion** from inflexible networks and evolving trade patterns
- **Fragmentation of supply** in a sector that has rarely consolidated
- **Lack of investment in new technologies** to connect, learn, predict, and automate
- **Shifting talent models** from retiring workforce to the gig economy
- **Disruptive entrants** that are taking advantage of the inefficiencies to displace others.

2.1.1 Transportation Trends

There, the San Diego Association of Governments (SANDAG) is laying the foundation for a complete overhaul of the region's transportation system. The goal is to make the system more

sustainable, accessible, affordable, and safe, while providing San Diegans' true transportation alternatives to trips made in single-occupancy vehicles.

San Diego's sweeping plan is underpinned by five transformative trends we see shaping the mobility agenda in 2020 and beyond. They are:

• Integrated, frictionless travel:

Transportation planners see a growing need to make travel more seamless, with minimal

stoppages or checkpoints. This trend is manifesting in many ways, including mobility

hubs that enable multimodal transportation, the rise of mobility-as-a-service (Maas),

platforms for ticketless travel, and innovations in micro mobility and last-mile connections.

• Digital identity: Transit and transportation agencies across the country are using digital technology to increase throughput, improve security, and help drive a better experience for users. This trend includes a move toward digital driver's licenses to enhance security, and experimentation with biometric and facial recognition to improve efficiency and throughput at airports.

• Customer experience: Transportation agencies and the broader mobility ecosystem are placing more emphasis on customer experience—putting the user's needs front and centre and making it easier to use digital transportation tools. They're also simplifying in-person transactions at local departments of motor vehicles, providing better infrastructure for pedestrians, and offering more inclusive travel options in urban areas.

• Innovation accelerators: Transportation agencies are tapping into private sector expertise and building public-private coalitions to drive innovations in multimodal transportation, autonomous and connected vehicle technologies, mileage-based pricing programs, and much more.

• AI-augmented mobility: A transportation ecosystem enabled with artificial intelligence (AI) can harness the power of data, analytics, and cloud to help reduce travel time, manage congestion, improve regulatory compliance, support air traffic control, enable dynamic policymaking, and deliver many other benefits.

2.1.2 Integrated, frictionless travel

Los Angeles' Mobility Plan 2035 divides the mobility hub concept into three categories.

Neighbourhood mobility hubs, which focus on low- density population areas, include transit, wayfinding, bike sharing, and parking infrastructure. Central mobility hubs, designed for high-density areas, include carsharing, real-time transit information, public spaces, and electric vehicle charging stations. Regional mobility hubs are designed for very high-density areas, typically at the ends of transit lines. Besides the services available at central mobility hubs, they also offer layover zones for buses, substantial bicycle parking facilities, and retail space. The City of Los Angeles received a US$8.4 million federal grant to build 13 mobility hubs across the city.

2.1.3 Ticketless public transit

In the United Kingdom, transit riders can use the Ticketless mobile-ticketing platform to move from one point to another with minimal friction. Urban Things, the company behind Ticketless, will soon launch a pilot of the "Be-in/Be-Out" system, in which the traveller's Ticketless app will communicate via Bluetooth to track their journey and manage fare collection without them having to take their phone out, providing a no-stop travel experience. Several cities in the United States are also moving toward mobile and integrated ticketing. The Las Vegas Monorail was the first public transit system to let passengers use Google Pay to purchase tickets. Customers of San Francisco's 22 transit agencies will soon be able to pay for travel on their mobile devices. And Los Angeles plans to improve its TAP Smart Card to integrate payments across different mobility options.

Now, passengers coming out of the terminals do not have to wait in long queues to purchase transit tickets. They can simply board the bus tap on using their standard Euro/Mastercard/Visa cards, proceed with their journey and tap off at their destination. This technology enables a friction less travel experience for the customer and also immensely enables the operator to reduce the time and cost spent in fare collection.

In future, based on intelligent analytics, there may be potential for passengers to receive personalised discounts or fares based on their patronage. Also, it will enable the operators maximise their revenue by creating optimal fares and routes based on its usage and traffic.

2.1.4 Customer experience

DEPARTMENT OF MOTOR Vehicles (DMV) commissioners have long known that customers who are unhappy with services at their local DMV often take their complaints all the way to the governor's desk. People transact a lot with local DMVs, which can make their experiences a bellwether for the constituent experience with the state and local government writ large. So, it's no surprise that as an increasing number of jurisdictions across the United States appoint chief citizen experience officers to manage and improve the experience citizens have while interacting with government, transportation services rank high on their agendas.

Transportation agencies themselves, along with the broader mobility ecosystem, are also placing more emphasis on customer experience (CX). That means putting users' needs front and centre, simplifying transactions, providing better wayfinding infrastructure for pedestrians, and offering more inclusive travel options.

Improving customer experience is a continuous task for any organization. A customer journey management system is introduced to research, measure, optimize, and orchestrate the customers' journey.

The customer journey management system benefited DMV to:

- Manage customer experience before, during, and after the process as well.
- Meet customer expectations from appointment booking and arrival process to service delivery and feedback collection
- Able to deliver a user-centred design practice for the existing as well as new customers
- Allow customers to choose the services with the flexibility of time and convenience.

2.1.5 Improving self-service at DMVs

In recent years, many DMVs have addressed the problem of long wait times for services and limited-service hours and locations through a mix of technology and process changes. Many states have implemented self-service kiosks in DMV offices to handle routine transactions. They've also added kiosks at high-traffic partner locations, such as grocery stores, saving many citizens a trip to their local DMV branch. In California, for example, registrations and license plate stickers, while also performing other routine transactions.

Washington D.C. and Maryland residents can perform their own emissions screening using 24-hour self-service kiosks that feature touch screens and audio with step-by-step instructions on the inspection process.

From kiosk veteran Frank Amoruso's view, the best is yet to come. While as many as 45 DMVs in the U.S. are operating some type of self-service kiosks, there is still a large number of government agencies that have not yet taken advantage of the technology. As the chief growth officer at Intellectual Technology Inc., a Fort Wayne, Indiana based technology company, Amoruso believes this will change over the next few years.

Many of the DMV systems in existence today are on a mainframe computer or are part of some other legacy environment. Full system replacements are expensive and risky. It's critical for agencies to perform a careful analysis of current processes in conjunction with technology upgrades. Solutions vary — from commercial off-the-shelf systems that are configurable but offer no access to the code, to multi-layered modernization initiatives that offer more control but tend to move more slowly.

Staffing is a challenge in most public-sector agencies, but especially so in the DMV, where finding, training and retaining workers is a constant struggle. DMV employees use legacy systems with green screens, which take a long time to master. Then, factor in customers who may be hot under the collar from having waited too long in line. IT leaders can help by developing systems that are more intuitive, with point-and-click applications. This would greatly reduce the time it takes for new employees to become proficient with an agency's systems and able to serve the customer.

2.2 COMPANY PROFILE

2.2.1 Public Transport

Unlike to private transportation, which is often administered on a timetable, operated on predetermined routes, and charges a listed cost for each journey, public transportation is a system of group travel for passengers open for use by the general public.

The majority of public transportation systems follow fixed routes with predetermined embarkation and debarkation stations and operate according to a set schedule, with the most frequent services operating at a headway (e.g.: "every 15 minutes" as opposed to being scheduled for any specific time of the day). However, most trips on public transportation also involve other forms of transportation, such people walking or taking buses to get to railway terminals. In many regions of the world, share taxis provide on-demand services that may compete with permanent public transportation lines or serve as a supplement by carrying passengers to interchanges. In places with low demand and for those who require a door-to-door service, paratransit is occasionally employed.

Locally available public transportation enables larger groups of people to travel together following predetermined itineraries. Buses, trains, and trams are common examples of public transit modes. Public transit between cities is dominated by high-speed trains, aircraft, and coaches.

The majority of public transportation services follow set schedules. Certain transportation systems run at maximum capacity, which means that a vehicle won't start until it is completely filled. When time is of the essence, though, several cities throughout the world offer shared cabs.

Cities can be brought closer together or further apart by public transportation. Decent, well-designed transportation systems are accessible, quick, comfortable, and cost-effective. Private car ownership, which is a significant cause of socioeconomic inequality and a significant contribution to climate change in cities all over the world, can be effectively replaced by access to safe, modern transportation.

High-capacity transportation corridors would replace single-occupancy private vehicles, significantly reducing emissions, reducing traffic congestion, and better connecting low-income neighbourhoods to the opportunities and resources they require.

2.2.2 Kochi Metro

Kerala's transportation industry has witnessed a number of changes during the past several years. In Kerala's digital hub of Kochi, one such development was the introduction of Metro trains, often known as light rail. Two significant research areas in the academic community and in the realm of marketing are service quality and customer happiness. The competitiveness in the market is a major factor in why these two concepts—service quality and customer satisfaction—are receiving so much attention.

The metro system known as Kochi Metro serves the city of Kochi. After only four years of work, it was made public. The Kochi Metro project is the first metro that links transportation hubs for train, road, and water. Dr. Manmohan Singh, a former prime minister, laid the cornerstone in 2012. A 13.4-kilometre segment of the railway from Aluva to Palarivattom was opened to travellers on June 17, 2017, after construction work had begun in June 2013. On October 3, 2017, a second 5-kilometre portion between Palarivattom and Maharajas College Stadium was opened. The Kochi Metro also has driverless train technology and plans to use it in the future.

A sustainable solution to an integrated transportation system is the Kochi Metro. It significantly contributes to Kochi's greening. It results in transit-oriented development, integrated transportation, and revitalised water transportation.

With a capital cost of 51817.9 M INR, it has a 25 km elevated metro line from north to south, 22 metro stations, one depot, three coach trains, the most up-to-date signalling system (CBTC), autonomous Train Operation compatible with UTO, and a capital cost.

A vertical garden is installed on every sixth Metro pillar in Kochi, and the city has non-motorized transportation routes, solar power systems, and other environmental projects. In addition to the standard tickets, it now uses a single card, timetable, and command and control system. This debit card, used in conjunction with the Kochi One Metro App, will give users access to all forms of public transportation, as well as the ability to make purchases and conduct online transactions. Soon, the 'click and collect' feature will be available, allowing users to pick up items they have ordered online from Metro stations.

2.2.3 Passenger Transport

Bus transportation for students to and from school and to school-sponsored events is also referred to as passenger transportation services. Surface, water, and rail facilities and services for carrying passengers, whether publicly or privately owned, include tour and charter buses that serve the general public.

Passengers need comfort, safety, regularity, precision, frequency, speed, and economy when travelling. Passenger vehicles may be used for intercity, urban, or tourist transportation. For each of these uses, the vehicle's technical and operational features vary dramatically. Passenger transportation is conducted in compliance with national and international legal standards. It can be free, public, for personal use, domestic, international, transit, border, or line. Individual and group travel for passengers is conducted, and the destinations reached can differ greatly.

Rapid growth in passenger transportation over the past few decades has led to a number of issues, including extreme traffic congestion and pollution. Future predictions indicate that passenger transport will continue to expand quickly, which will make the problem even worse. Traditionally, infrastructure expansion has been used to address issues.

All means of travel and trip interchange portions do not effectively interface with the passenger transportation system. Facilities and infrastructure along strategic priority routes, a lack of coordination in the scheduling of services, and the dispersion of regulatory authority in the industry are all examples of ineffectiveness.

The ageing infrastructure and rolling stock in the passenger rail industry are placing pressure on service capacity.

Lack of proper maintenance procedures and improvements to lines and signal systems have a negative impact on infrastructure capacity. In many cases, especially in rural areas, passengers do not have any modal choice and is either a captured market or stranded without any public transport.

2.3 PRODUCT PROFILE

2.3.1 Public Transports

i. Buses

For longer, more frequent trips, bus services use buses on normal roadways. Compared to trams or trains, buses have a lower carrying capacity, can travel on ordinary highways, and have reasonably priced bus stops to accommodate people. Buses are so frequently utilised as shuttle services to support other forms of public transportation in large cities as well as in smaller towns, cities, and rural areas.
Bus rapid transit is a vague word that refers to buses that run on designated rights-of-way, similar to a light rail.

ii. Commuter trains/ Light rail

A passenger rail transportation service known as commuter rail, also known as suburban rail, serves to connect commuters from nearby suburbs or commuter towns to a central city. Heavy rail systems that use diesel or electric trains include commuter rail networks. Zone pricing or distance fees may be applied.

Although it can be used to describe systems with a wide range of features and service frequency, the phrase is frequently used to contrast rapid transit with light rail.

iii. Taxi

A taxi, usually referred to as a taxicab or just a cab, is a class of for-hire vehicle with a driver that is employed by a single passenger or a small group of passengers, frequently for an individual ride. Passengers are transported in taxicabs to and from their desired locations. While demand responsive transportation and share taxis offer a hybrid bus/taxi mode, this is different from public transportation in that the service provider determines the pick-up and drop-off locations, not the passengers.

iv. Ferries and water taxis

A ferry is a ship, boat, or amphibious vehicle that carries people across a body of water, occasionally along with automobiles and freight. Water bus or water taxi are other names for a small passenger ferry with numerous stops, like those in Venice, Italy.

Several waterside communities and islands include ferries in their public transportation networks because they provide direct travel between destinations for a far cheaper initial investment than bridges or tunnels. Ferry services, which frequently transport autos, are ships that connect at much greater distances.

v. Cable cars

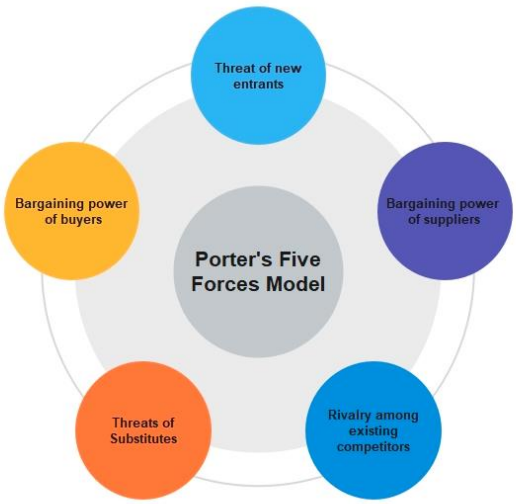
In a cable car, rail carriages are pulled by an always-moving cable that travels at a constant speed. Cable cars are a type of cable railway used for public transit. Individual autos release and tighten this cable as necessary to stop and start. Funiculars, in which the cars are fixed to the cable, are different from cable cars.

2.3.2 Private Transports

i. Motorized:
   a. Automobile
   b. Motorboat
   c. Electric bicycle
   d. Electric skateboard
   e. Motorcycle
   f. Private jet
   g. Motor ship
   h. Submarine
   i. Electric scooter
   j. Mobility scooter

ii. Non-motorized:
   a. Bicycle
   b. Hot air balloon
   c. Ice skates
   d. Roller skates
   e. Scooter
   f. Skateboard

2.4 PORTER'S FIVE FORCES MODEL



1. Rivalry among existing customers-

This force examines how competitors behave inside the market so that if rivalry is greater, there are less opportunities to gain advantages, which reduces the sector's attraction.

This force refers to the number of competitors in the industry and the intensity of the rivalries within the industry. The larger the number of competitors, along with the number of equivalent products and services they offer, the lesser the power of a company. When rivalry is intense, it drives down prices or dissipates margins by raising the cost of competing. Conversely, when rivalry is low, a company has greater power to charge higher prices and set the terms of deals to achieve higher sales and profits.

The transportation and mobility services industry has a somewhat high barrier of entry, where there is a limited number of competitors, especially in public transit.

2. Threat of new entrants-

The threat of new entrants is enormous in the transportation area because of the instant benefits that the introduction to the market under examination implies for organizations worldwide. To be more precise, the organizations functioning in the defined environment face the risk of losing their current position as leaders whenever a company that can offer cheaper pricing for roughly the same equality level arrives. As a result, the businesses who are currently in charge of the sector are exerting every effort to maintain their leadership roles and their ability to influence the target market.

3. Threat of Substitutes-

The threat of a substitute is high if it offers superior price-performance trade-off relative to the company's products or services, and the buyer's cost of switching to the substitute is low. When such options to forgo buying a company's product or services surface, the company's bargaining power can be weakened.

Urban transit is a unique service, and one that any urbanite cannot do without… To get from Point A to Point B within an urban context has few options available, and hence very few substitutes for the commuter. In such an environment, the commuter does not have much choices other than what is currently available in the market.

4. Bargaining power of Suppliers-

The fewer the number of suppliers, and the more a company depends on a supplier, the more power a supplier holds to drive up input costs and push for advantage in such trades. On the other hand, when there are many suppliers or low switching costs between rival suppliers, a company can keep input costs lower and increasing its profits.

In the transportation industry, the key hardware and infrastructure equipment has a number of suppliers vying for the same customers, and providing somewhat similar products with relatively low product differentiation. The ability to substitute and cost of changing is relatively low for the mobility service provers to switch suppliers, thereby forcing a downward pressure on prices.

5. Bargaining power of Buyers-

Seeing that the resources used for transportation purposes are exhaustible and that the need for the corresponding services is consistent, the bargaining power of buyers is very low in the target area. It is expected that the clients will purchase the corresponding services without questioning the issue of price as the need for transportation emerges on a daily basis. The low rates of purchasing power of buyers elevate the rivalry rates even higher in the designated area, making the competition increasingly tight.

2.5 SWOT ANALYSIS

Strengths of Transport Corporation of India

- The Advantage of Business Alliance: In an ever-increasingly crowded market Transport Corporation of India's market share in the integrated multimodal logistics industry is quickly expanding as a result of the new partnerships such as the business alliance with Mitsui & Co Ltd and business agreement with CONCOR for bulk transport by rail and road in India.
- 24×7 Availability: A 24/7 Customer Cell ensures continuous improvement in services and products through customer engagement. The company leads the way in providing robust customised solutions.
- Cutting-edge Technologies: Introducing and applying innovations to their entire gamut of supply chain services ensures speedy distribution. Cutting-edge technology, a wide range of innovative, vertical-specific products and value-added services delivers unmatched standards of service quality to its customers.

Weaknesses of Transport Corporation of India

- Insufficient Training: Lack of training for courier and delivery personnel that interact directly with customers is an issue because they represent the company's face.
- Huge Operational Costs: Operating a business in the logistics industry requires big amounts of operational costs from time to time to keep the business process going.
- Changes in Technology: It requires frequent changes in technology as new and better technology comes up now and then. It gets both difficult to train people and an expensive affair to bring in changes in the technology used frequently.
- Labour-Intensive Industry: The logistics industry is dependent on people and is, therefore, a labour-intensive industry. This dependence on people makes it exhausting for the company to manage regular training of delivery partners and performance-based appraisals.
- Damage in Transportation: It is the major possibility in transportation and delivery services that the products may get damaged some time which is commonly seen. It also directly affects the reputation of the company which is not good.

Opportunities for Transport Corporation of India

- Diversification: The majority of India's population still lives in the rural parts making it a huge and untapped market as there are not many international logistic players that have entered it. The rural areas of India are having an increase in logistics, the company can expand its services to villages and rural areas.
- Increase in Trade: Rise in trade around the globe in manufacturing goods will lead to an increase in the transportation of goods leading to an increase in business for Transport Corporation of India. Transport Corporation of India can expand on a global level and aim for better penetration.
- Investment in Technology: Investing in good and modern technology provides many opportunities for a brand. Machine learning and data science are booming, brands can utilise them to back their product development and enhancement process. Transport Corporation of India can develop software that enables faster goods clearance saving time.

Threats to Transport Corporation of India

- Political Unrest: Political unrest like riots and protests lead to injuries to delivery partners and cause damage to the goods that are to be delivered.
- Country-specific Regulations: Each country has a different set of rules and regulations regarding the transportation of goods. Some goods have very strict restrictions in some countries making it difficult to transport them.
- Increasing Fuel Rates: The increasing fuel rates are also a weakness for Transport Corporation of India because as the fuel rate increases the company has to make changes in its delivery prices to survive in the market.

CHAPTER THREE

DATA ANALYSIS AND INTERPRETATION

3.1 DEMOGRAPHIC DETAILS OF RESPONDENT

Table 3.1 (a) Demographic Details of Respondents

Demographic Characteristics		**Number of Respondents**	**Percentage**
Age	Above 15	3	1.8
	20 – 30	72	44.2
	30 – 40	23	14.1
	Above 40	65	39.9
Gender	Male	75	46
	Female	88	54
Occupation	Employed	69	42.3
	Unemployed	8	4.9
	Student	49	30.1
	Other	37	22.7
Annual Income	Less than 1,00,000	47	28.8
	1,00,000 – 3,00,000	45	27.6
	More than 3,00,000	71	43.6
Place of residence	Rural	32	19.6
	Urban	131	80.4

Figure 3.1 Details of age of respondents

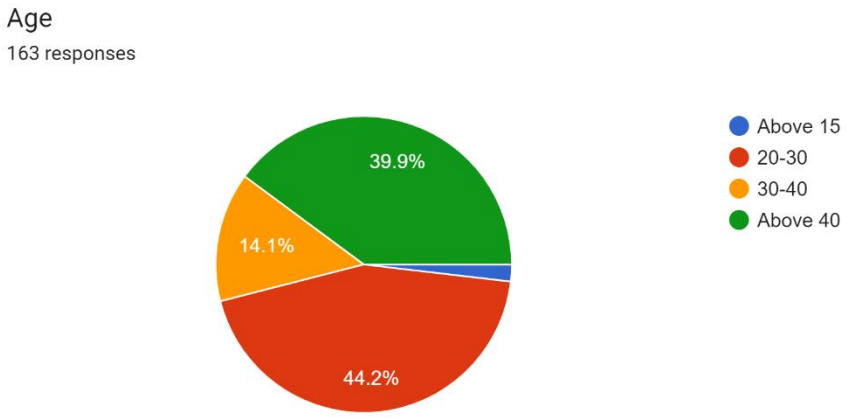


Figure 3.2 Details of gender of respondents

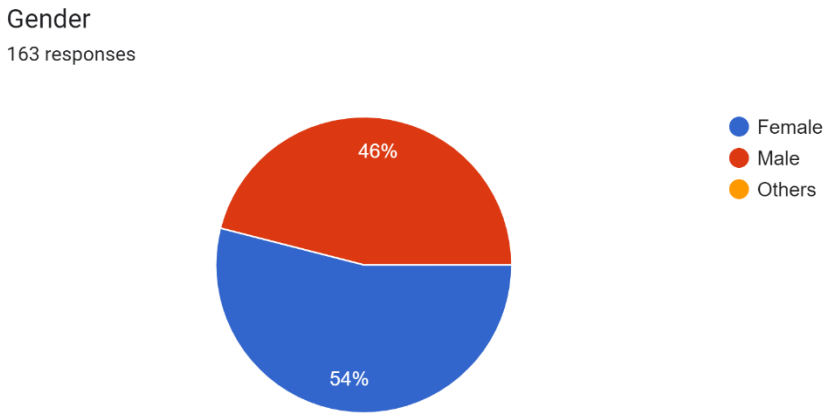
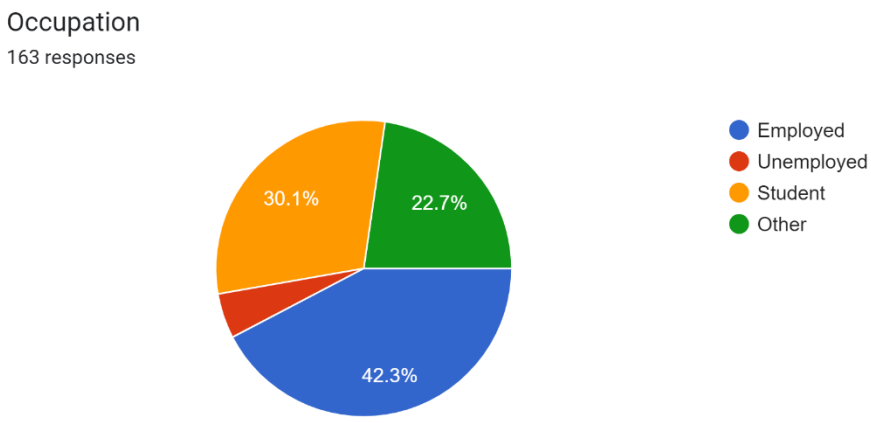


Figure 3.3 Details of Occupation of respondents



3.2 CHI – SQUARE AND CROSS TABULATION RESULTS

3.2.1 Association between proximity to nearest Metro station and usage of Metro

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.721[a]	6	.048
Likelihood Ratio	10.904	6	.091
Linear-by-Linear Association	8.631	1	.003
N of Valid Cases	163		

Since p=0.048, which is <0.05. It reveals that the usage increases when the Metro station is in close proximity. This means that if the customers are in close proximity to the nearest metro station, they are more likely to use it.

This test was conducted to understand if there was any relationship between distance and the mode of transport chosen.

3.2.2 Association between proximity to nearest Auto stand/Bus stand and usage of those

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.729[a]	6	.579
Likelihood Ratio	6.383	6	.382
Linear-by-Linear Association	2.469	1	.116
N of Valid Cases	163		

Since p=0.579, which is >0.05. It reveals that the usage of public transport does not depend on the proximity of the nearest auto stand/bus stand. This reveals that even if the nearest Auto stand/Bus stand are in close proximity, it does not influence customers to choose that mode of transport.

3.2.3 Association between occupation and usage of public transport

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.008[a]	3	.005
Likelihood Ratio	16.160	3	.001
Linear-by-Linear Association	.071	1	.790
N of Valid Cases	163		

Since p=0.005, which is <0.05. It reveals that the usage is more among employed people. This shows that there is a very close association between the type of occupation and the usage of public transport. This means that Employed people tend to use public transport more when compared to other occupations. The test was conducted to understand people under which occupation uses public transport more.

3.3 T – TEST RESULTS

3.3.1 Difference in the willingness to recommend Metro to others with respect to Gender of the respondent

Independent sample t-test is performed to test if there is a significant difference in the willingness to recommend Metro to others with respect to the gender of the respondent. The values obtained are shown in the table below.

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
How likely are you to recommend Metro to others?	Male	75	4.55	.759	.088
	Female	88	4.39	1.098	.117

It was revealed that willingness to recommend Metro to others was lower for Female (M=4.39, SD=1.098) than for Males (M=4.55, SD=0.759). It helped in understanding which sex recommends metro more. The hypothesis is hence significant.

3.3.2 Difference in the willingness to recommend Metro to others with respect to place of residence of the respondent

Independent sample t-test is performed to test if there is a significant difference in the willingness to recommend Metro to others with respect to the place of residence of the respondent. The values obtained are displayed below.

Group Statistics

	Place of residence	N	Mean	Std. Deviation	Std. Error Mean
How likely are you to recommend Metro to others?	Rural	32	4.31	.998	.176
	Urban	131	4.50	.948	.083

It was revealed that willingness to recommend Metro to others was higher among people from Urban areas (M=4.50, SD=0.948) than among people from Rural areas (M=4.31, SD=0.998). But the alternate hypothesis is rejected as the significance is than 0.05.

3.3.3 Difference in the usage of public transport with respect to the place of residence of the respondent

Independent sample t-test is performed to see if there is a significant difference in the usage of public transport with respect to the place of residence of the respondent. The table below shows the values obtained.

Group Statistics

	Place of residence	N	Mean	Std. Deviation	Std. Error Mean
How often do you use public transport?	Rural	32	2.97	.897	.159
	Urban	131	2.68	.914	.080

It was revealed usage of public transport was higher among people from Rural areas (M=2.97, SD=0.897) than among people from Urban areas (M=2.68, SD=0.914). This test helps us to understand people residing in which area uses public transport more. But the alternate hypothesis is rejected as the significance is than 0.05.

3.3.4 Difference in the usage of Metro with respect to the place of residence of the respondent

Independent sample t-test is performed to see if there is a significant difference in the usage of Metro with respect to the place of residence of the respondent. The table below shows the values obtained from the study.

Group Statistics

	Place of residence	N	Mean	Std. Deviation	Std. Error Mean
How often do you use Metro?	Rural	32	2.31	.693	.122
	Urban	131	2.41	.812	.071

It was revealed usage of metro was higher among people from Urban areas (M=2.41, SD=0.812) than among people from Rural areas (M=2.31, SD=0.693). The main purpose for conducting this test was to understand the relationship between usage of Metro and the place of residence of the respondent. But the alternate hypothesis is rejected as the significance is than 0.05.

3.4 COMPARATIVE MEAN

Price

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MEANPRKM	163	1.00	5.00	3.9693	.89182
MEANPRPT	163	1.00	5.00	3.8098	.99723
Valid N (listwise)	163				

This shows that even though price levels are more for Metro, people still prefer Metro over other public transport. The purpose of this test was to compare both the public transports and understand which one is opted based on price factor. It will help in understanding whether price is a major factor for deciding the mode of transport.

Customer relation

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MEANCRKM	163	1.00	5.00	4.1902	.81310
MEANCRPT	163	1.00	5.00	2.8221	1.20144
Valid N (listwise)	163				

This shows that the people are satisfied with the Customer relations in Metro.
The main aim for conducting this test was to understand which public transport customers are more satisfied with the customer relations.

Service quality

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MEANQSPT	163	1.00	5.00	2.7853	1.18500
MEANQSKM	163	3.00	5.00	4.5460	.56876
Valid N (listwise)	163				

This shows that the service quality of Metro is better than that of public transports. Through this test, we can conclude that the customers are satisfied with the service quality of Kochi Metro than the service quality of other public transports.

Loyalty card and offers

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MEANLCKM	163	1.00	5.00	3.7791	.96241
MEANLCPT	163	1.00	5.00	2.5460	1.14505
Valid N (listwise)	163				

This shows that the loyalty offers given by Metro are more beneficial. This test was conducted to compare the loyalty benefits provided by both the public transports, and to understand which one the customer chooses and why.

CHAPTER FOUR

SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION

4.1 LIST OF FINDINGS

i. Table 3.2.1 reveals that the usage increases when the Metro station is in close proximity. Therefore, we can say that one of the major reason consumers choose Metro when it is available in the close proximity.

ii. Table 3.2.2 reveals that the usage of public transport does not depend on the proximity of the nearest auto stand/bus stand. From this we can incur that, even if there are no Bus or Auto stand in the close proximity, people still choose them because it takes them to the required destination at a cheaper price.

iii. From Table 3.2.3 we can understand that there is a close association between the occupation of the consumer and their usage of public transport. The study reveals that public transports are used more by Employed people of the society when compared with the rest of the category.

iv. From Table 3.3.1 we understand that willingness to recommend Metro to others is higher for Male customers. This implies that Male consumers are willing to suggest the usage of Metro to others.

v. Table 3.3.2 reveals that according to the place of residence of the respondent, their willingness to recommend Metro varies. People from Urban areas recommend Metro more to others.

vi. From Table 3.3.3 we can understand that there is a relationship between the usage of public transport and the place of residence of the respondent. People belonging to the Rural areas use public transport more when compared to the people residing in Urban areas. This can be because the people from Urban areas have a tendency to use private vehicles to commute.

vii. Table 3.4 shows that even though price levels are more for Metro, people still prefer Metro over other public transport. This can be due to the quality of service they provide and the customer relations Metro employees maintain with their customers.

viii. From Table 3.4 we can conclude that people are satisfied with the customer relations of Metro. This can be considered as a major reason for the shift in the consumer behaviour towards Kochi Metro.

ix. The service quality of Metro is better than that of public transport, from Table 3.4. This shows that consumers are not satisfied with the quality of service that other public transports provide. Quality can be taken as a major reason why consumers choose Metro over other public transports.

x. We can conclude from Table 3.4, that the loyalty offers given by Metro are more beneficial. No other kind of public transport provide any kind of loyalty offers to their loyal customers. Even though Metro offers loyalty cards, customers are still not satisfied with what they put forward.

4.2 SUGGETIONS

i. Even though consumers are willing to pay more and travel by Metro, Metro can still increase their sales by reducing their price.
The price of a metro ticket from Aluva to S.N Junction is Rs.60 and the price for the same distance via Bus is approximately Rs.30 - 40
Yet consumers prefer Metro. So, if Metro was to reduce their price even by Rs.5, they could increase their sales.

ii. The service quality of public transport needs to be increased.
Service quality provided by public transport is very low and people are not satisfied. If they are able to improve their quality, even with low prices, they will be able to gain more customers.

iii. The study shows that consumers are not satisfied with the customer relations of public transport and that can be improved.
Public transport staff does not have a knack to handle the customers, whereas the Metro staff are gentle with customer handling and they create a bond with the customers. This leaves the customers satisfied; hence Kochi Metro is able to retain their loyal customers.

iv. The loyalty offers offered by Metro are not that great and consumers are not satisfied to a great extent.
Even though Metro provide certain loyalty offers and other public transport don't, the customers are still not satisfied with Metro offers.
So, Kochi Metro can try to introduce offers that will satisfy the customers, they can conduct a survey to understand the needs and wants of the customers and introduce offers based on that.

v. Since Metro is following a sustainable method and other public transports are not, this factor can be considered a major reason for the shift. Even though the price is more in Metro, consumers still choose Metro over other public transport.

vi. From the study, we are able to understand that Males recommend Metro more than Females. So, Kochi Metro can try to expand their Female customers and make them their loyal customers.

vii. We can conclude from the study that Kochi Metro is used more by people residing in Urban areas. So, Kochi Metro can try to increase their customer base from Rural areas and motivate them to use Metro more.

viii. It can also be interpreted that even though people from Rural areas recommend Metro more, the Rural people who actually use Metro is less. So, Metro can try to motivate the customers from Rural areas to use Metro for their daily commute.

ix. From the study, we can understand that the majority of people who use Metro are mostly used by Employed category. Taking into consideration this factor, Metro can introduce offers for students and give student concession. This can be done by giving tickets at a more affordable price.

x. Since Metro is already following a sustainable approach, they can add more sustainable practices. For example; they can introduce green practices and encourage customers to practice too.

xi. On the path of following green practices, Metro can go for a ticket-less practice. Metro has already introduced a n App for downloading e-ticket. But since that is not known and followed by a lot of people, they can try to make more people aware of this app and encourage them to use this.

xii. Metro can try to incorporate SDG practices and try to follow practices which are beneficial for the environment as a whole.

xiii. The SDG practices Metro can follow are –

- SDG 7: Affordable and clean Energy
- SDG 8: Decent work and economic growth
- SDG 11: Sustainable cities and communities
- SDG 13: Climate Action

xiv. According to the study, we can understand that the students who use public transports like bus, are not satisfied with the way the people in the bus behave towards them.

xv. Since students opt for transporting via bus due to the low price, the behaviour is not acceptable. Employees of the public transport should try to be more friendly and build a rapport with the customers.

xvi. Improving bus frequency can be used as a measure to encourage more people to use bus. The time spent waiting for a bus (sometimes in the rain) is a major part of their total transit time. Riders want the assurance that their bus will arrive soon.

xvii. Increasing passenger comfort and safety. Transit agencies should focus on improving the quality of the ride. A smoother, quieter bus ride can reduce the stress and attract riders.

xviii. The public has a strong perception of the negative impacts of diesel and petrol buses on local air quality and climate change overall. A study has also shown that people are willing to pay more and use zero-emission buses, knowing they help reduce green house gas emissions.

xix. Giving public transport road priority. This can be achieved through the implementation of more bus lanes. These lanes are separated from the rest of the road, and can help to improve the reliability and safety of buses.

xx. Fully functioning gates at all Metro stations. If all public transport gates are optimised and working efficiently in self- service format as they should, then staff are free to provide better customer service. It also facilitates a smooth and fast user flow and avoids any bottleneck in rush hours.

xxi. Enhancing connectivity and convenience can go a long way. Smart technology can allow customers to open gates with smartphone tickets, instead of worrying about purchasing a ticket from the machine. This reduces queue times even during rush hours, and allows users to easily pass through gates.

4.3 CONCLUSION

In today's scenario, it is important for various public transports to analyse the needs and want of the customers and act accordingly. Customers are open to lot of options and they are free to choose which ever public transport to commute. So, it is the responsibility of the various agencies, to promote their mode efficiently.

The major players in the Transportation Industry in India are, Metro, Auto, Bus and Taxi/Cabs.

The Transportation Industry is one of the fastest growing industries in India and is witnessing revolution. Kochi Metro has come forward as a leading player and is now one of the most common public transports used by people.

Since the introduction of Kochi Metro in 2017, there has been a rapid shift in the consumer preference and people now choose Metro over other public transports like bus and auto.

The study was conducted to find the reason for the shift in consumer behaviour in terms of public transport. The results show that consumers prefer Metro over other public transport. The study focused on four major factors consisting of,

- Price
- Service Quality
- Customer Relations
- Loyalty offers

The study gave an insight about the various reasons for this shift. We are able to understand that people are willing to pay more and use Metro over other public transports, because of the service quality that Metro provides.

From this study, we can infer few suggestions that might help other public transports to increase their sales and bring in more customers.

We are also able to understand the various areas where Metro can improve. Therefore, the study was helpful in analysing the various success factors of Metro and their areas of improvement.

BIBILIOGRAPHY

https://www.conserve-energy-future.com/benefits_of_public_transportation.php

https://kpmg.com/in/en/home/industries/transport-logistics.htmlhttps://transport.ec.europa.eu/transport-modes/road/passenger-transport_en

https://www.britannica.com/technology/passenger-transportation

https://www.britannica.com/technology/airport/Passenger-terminal-layout-and-design#ref593395

https://www.researchgate.net/publication/27353715_The_Driving_Factors_of_Passenger_Transport

https://www.transport.gov.za/documents/11623/39906/8_PassengerTransport2017.pdf/432d88ee-8502-4b24-8412-3a6426294cab

https://www.c40knowledgehub.org/s/article/How-to-make-public-transport-an-attractive-option-in-your-city?language=en_US

https://iide.co/case-studies/swot-analysis-of-transport-corporation-of-india/

https://www.sciencedirect.com/science/article/pii/S1135252313000312

https://medium.com/@transitprotocol/porters-five-forces-and-transit-protocol-s-market-strategy-d943de8189a4

https://edufixers.com/transportation-industry-analysis-porters-five-forces/

https://en.wikipedia.org/wiki/Kochi_Metro

https://www.magicbricks.com/blog/kochi-metro/128915.html

https://kochimetro.org/

https://themetrorailguy.com/kochi-metro-phase-2-information-stations-route-maps-tenders-updates/

https://mohua.gov.in/upload/uploadfiles/files/Kochi_Metro_PPT.pdf

https://www.keralaonline.in/about/transport

http://www.kerala-tourism.org/kerala-transport/

https://www.keralartc.com/main.html

https://www.itdp.org/our-work/public-transport/

https://www.government.nl/topics/mobility-public-transport-and-road-safety/public-transport/types-of-public-transport

https://scroll.in/article/1025106/how-india-missed-the-bus-and-why-we-must-catch-up-now

REFERENCES

1. Jeremy Sung, Yannick Monschauer, Article Changes in transport behaviour during Covid-19, 2020
2. Mariza Motta Queiroz, Carlos Roque, and Filipe Moura, Shifting from private transport to public transport, 2020
3. Dave Keating, Covid Causing Shift from Public Transport to Cars, 2020
4. Anna Urbanek, Potential of modal shift from private cars to public transport: A survey on the commuters' attitudes and willingness to switch – A case study of Silesia Province, Poland, 2021
5. Curtis, E. (2001). Transportation. Great Britain: Wiley-Academy.
6. Daily, G.C. & Ehrlich, P.R. (1992). Population, sustainability, and earth's carrying capacity. BioScience, 42(10), 761-771.
7. Danziger, P. (2005). Let them eat cake: Marketing luxury to the masses - as well as the classes. Chicago, IL: Dearborn Trade Publishing.
8. Bruns-Smith A., Choy, A., Chong, H., Verma, R., Environmental Sustainability in the
9. Transportation Industry: Best Practices, Guest Participation, and Customer Satisfaction.
10. Cornell University Study: USA, 15(3), 2015.
11. Skogland, I. & Siguaw, J. (2004). Are your satisfied customers loyal?
12. Transportation Administration Quarterly, 45(1), 221-234.
13. Robinson, J. E. (2007). A Study on Transportation Industry In North Carolina Special
14. Schlinke, J., & Crain, S. (2013). Recent trends of Transportation Industry
15. Journal of Financial Service Professionals, 67(2), 85-92.
16. Schultz (2017). Proposing to your fans: Customer preferences
17. Consumer engagement activities about various modes of Transportation
18. Research and Applications, 26, 23-34.
19. Stileman, P. (2009). To What Extent Has choices influenced consumers
20. Stojiljkovic, A. (2019). The Impact of Social Media Marketing of Transportation agency on Customer preference.
21. Relationship Development. Journal of Process Management – New Technologies,
22. International, 7(3).
23. Watson, R.P., Leyland, F.P., Berthon, P. and Zinkham, G. (2002). U-commerce
24. Journal of the Academy of Marketing Science,
25. Weinberg, T. (2009). The new community rules: Marketing on the Social Web by public transport.
26. Sebastopol, CA: O"Reilly Media Inc.
27. Wigmo, J., & Wikström, E. (2010).
28. Nadaraja, R., & Yazdanifard, R. (2013). Transportation agency: advantages and disadvantages.
29. Center of Southern New Hempshire University, 1-10- study on recent trends.
30. Mohammadian, M. & Mohammadreza, M. (2012, March 11). Identify the success factors of Metro.

ANNEXURE

1. Name *

_____

2. Age *

Mark only one oval.

- ◯ Above 15
- ◯ 20-30
- ◯ 30-40
- ◯ Above 40

3. Gender

Mark only one oval.

- ◯ Female
- ◯ Male
- ◯ Others

4. Occupation

Mark only one oval.

- Employed
- Unemployed
- Student
- Other

5. Annual Income *

Mark only one oval.

- less than 1,00,000
- 1,00,000 - 3,00,000
- more than 3,00,000

6. Place of residence *

Mark only one oval.

- Rural
- Urban

7. Are you a person who uses public transport (Bus, Auto, Taxi etc) *

Mark only one oval.

- Yes
- No

8. How often do you use public transport? *

Mark only one oval.

- Very often
- Often
- Sometimes
- Never

9. Proximity to nearest Bus stand/Auto stand *

Mark only one oval.

- less than 100 meters
- 100 - 200 meters
- more than 200 meters

10. How often do you use Metro? *

Mark only one oval.

- Very often
- Often
- Sometimes
- Never

11. Proximity to nearest metro station *

Mark only one oval.

- less than 100 meters
- 100 - 200 meters
- more than 200 meters

12. Rate Metro services on the basis of the following parameters - *

Mark only one oval per row.

	Excellent	Good	Neutral	Poor	Very poor
Convenience					
Price					
Sustainability					
Reach inaccessible areas					
Safety					
Customer relation					
Quality					
Offers and loyalty card					
Reliability					
Cleanliness					

13. Rate other public transport on the following parameters *

Mark only one oval per row.

	Excellent	Good	Neutral	Poor	Very poor
Convenience	◯	◯	◯	◯	◯
Price	◯	◯	◯	◯	◯
Sustainability	◯	◯	◯	◯	◯
Reach inaccessible areas	◯	◯	◯	◯	◯
Safety	◯	◯	◯	◯	◯
Customer relation	◯	◯	◯	◯	◯
Quality	◯	◯	◯	◯	◯
Offers and loyalty card	◯	◯	◯	◯	◯
Reliability	◯	◯	◯	◯	◯
Cleanliness	◯	◯	◯	◯	◯

14. How likely are you to recommend Metro to others? *

Mark only one oval.

- Very
- likely
- Neutral
- Not likely