A STUDY ON CUSTOMER PERCEPTION TOWARDS INDIAN RAILWAYS WITH SPECIAL REFERENCE TO COIMBATORE RAILWAY STATION

Submitted in partial fulfilment pf the requirement for the Degree of

Master Of Commerce

Submitted by

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MAY – 2024

CERTIFICATE

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This is to certify that the thesis, entitled " A STUDY ON CUSTOMER PERCEPTION TOWARDS INDIAN RAILWAYS WITH SPECIAL REFERENCE TO COIMBATORE RAILWAY STATION ", submitted to the Avinashilingam University, in Partial fulfilment of the requirements for the award of the Degree of Master of Commerce is a record of original research work done by me during the period **January 2024 – May 2024** of her research in the Department of Commerce at Avinashilingam Institute for Home Science and Higher Education for Women, SF-Programs, Campus – II, Coimbatore – 641 108 under my supervision and guidance and the thesis has not formed the basis for the award of any Degree / Diploma / Associate ship / Fellowship or other similar title of any candidate of any University.

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DECLARATION

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We hereby declare that this project work entitled " A STUDY ON CUSTOMER PERCEPTION TOWARDS INDIAN RAILWAYS WITH SPECIAL REFERENCE TO COIMBATORE RAILWAY STATION " submitted to Department of Commerce, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, in partial fulfilment of the requirements for the award of the **Degree of Master of Commerce** is the record of the original project work done by us during the period of study, under the supervision and guidance of **Dr .S. Raja M.com., M.Phil., BGI., PGDCA., M.Sc. (IT)., Ph.D. Director,** Avinashilingam Institute for Home Science and Higher Education for Women (SF)

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Signature of the Supervisor **Signature of the Candidate**

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

Every work on its backdrop has the blessing of Lord Almighty. Therefore, I submit my reverential gratitude on the feet of the Lord Almighty. I deem it a great pleasure to thank all those rendered their help during the course of this study.

I am grateful to Dr. T. S. K. Meenakshisundaram M.A., M.Phil., Ph.D. Chancellor, and Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore for providing all facilities necessary for the study.

My special word of gratitude to Dr. V. Bharathi Harishankar Ph.D., FRSA, Vice Chancellor, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for providing the opportunity and exposure to the world of knowledge.

My special thanks to former registrar Dr. S. Kowsalya, M.Sc., M.Phil., Ph.D., and Dr. H. Indu, M.Sc., M.Ed., M.Phil., Ph.D. MBA., SLET Dean (I/C) Registrar Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for administrative support and for providing adequate help required to carry out the work.

I express my humble gratitude to Dr. S. Raja M.com., M.Phil. BGI, PGDCA, M.Sc. (IT), Ph.D., Director, SF Programs Campus II. Women, Campus II, Coimbatore, for the valuable suggestions and strong support throughout the project.

My heartfelt thanks to Dr. V. Savitha, M.B.A., M.Phil., Ph.D., Assistant Director, SF Programs Campus II, Coimbatore.

My special and sincere thanks to Mrs. Rangeela, M. Com, M.Phil., (I/C) for her encouragement and for giving necessary help and support.

I take this opportunity to express my sincere thanks to Dr. R. Arul Jothi, M.Com., M.Phil., B.Ed., Ph.D., Head of the Department of Commerce for her encouragement and support.

My heartfelt thanks and gratitude to the Librarian.

I am immensely thankful and extremely grateful to my family and friends for their timely help and valuable suggestions.

B. PRINCY BENEDICTA

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CHAPTER 1

CHAPTER 1

INTRODUCTION

1.INTRODUCTION

Transport or Transportation is the movement of people, animals and goods from One location to Another. The different modes of transport include air, rail, road, Water, cable, pipeline and space. Transport Infrastructure consists of the fixed Installations including roads, railways, airways, waterways, canals, pipelines And Terminals such as airports, railway stations etc. Transportation infrastructure Assumes a great in developing Countries since all the sectors of the economy are Closely dependent upon the existence of suitable transportation Network. It Contributes to the development and growth of the economy.

Rail Transport is the means of conveyance of passengers and goods by way of Wheeled vehicles running on rail tracks. In contrast to road transport, where Vehicles merely run on a prepared surface, rail vehicles are also directionally Guided by the tracks they run on. The history of rail transport dates back nearly 500 Years and include systems with man or horse power and rails of wood or stone.

Modern rail transport systems first appeared in England in the 1982s. These Systems, which made use of the steam locomotive, were the first practical forms of Mechanized land transport, and they remained the primary form of mechanized Land transport for the next 100 years. (History of Rail transport, 2010). Majority of the metro urban rail networks are operated by independent bodies Constituted for the purpose of the respective operations. Private owned rails exist in Few places, mostly used to connect freight to the integrated rail network. Inter-city Rail services are operated primarily by Indian Railways though efforts have been Made to introduce privately operated trains as recently as 2022.

The national rail network comprised total route length of 68,907 km (42,817 mi), With more than 129,000 km (80,000 mi) of track and 8,000+ stations and is the Fourth-largest in the world. It is one of the busiest networks in the world, Transporting more than 11 billion passengers and 1.416 billion tonnes of freight Annually. As of October 2023, more than 60,813 km (37,787 mi) of all the routes Have been electrified with 25 KV AC electric traction. The rolling stock consisted of 318,196 freight wagons, 84,863 passenger coaches, 14,781 locomotives and other multiple units owned by Indian Railways apart from rail-sets operated by Metro rail corporations.

1.1 INDIAN RAILWAYS

Indian Railways is a state-owned enterprise, owned and operated by the Government of India trough The Ministry of Railways. The rail transport in the Country began in the mid-19th century. Great Indian Peninsula Railway (GIPR) Built the country's first railway. The first train in the Indian sub-continent ran over A stretch of 21 miles from Bombay to Thane. The first passenger train steamed out Of Howrah station destined for Hooghly, A distance of 24 miles on 15th august 1854. Indian Railway was nationalized in 1951 making it as a monopolist In the Country. IN 2014-15, IR had revenues of 1634.50 billion, which consists of 1069.27 billion from freight, And 402.80 billion from passenger transit. The Southern Railway headquartered at Chennai, Tamil Nadu is one of the earliest Zones of Indian Railways. It was formed in 14 April 1951 by merging three state Railways. It has the following divisions: Chennai, Madurai, Tiruchirappalli, Salem, Palakkad and Thiruvanathapuram.Southern zone covers the states of Tamil Nadu, Kerala, Pondicherry & small portions of Andhra Pradesh and Karnataka. The UNESCO‟s world Heritage site i.e. Nilgiris Mountain Railway is under this zone. Kerala's major railway stations are TVC, Quilon Junction, Kayamkulam Junction, Chengannur, Kottayam, Ernakulam Junction & Town, Calicut, Shornur Junction, Kannur, Palakkad Junction, Thrissur, and Alappuzha. Thiruvananthapuram Central (TVC) is the busiest station in the state. The Indian railways provide the opinion approach of transportation for freight and Passengers. Indian railways have been a fundamental element of the social, Political and economic life of the country. This network has not only included Markets but also people crossways extent and span of the country. It has cleared the financial life of the country and helped in accelerating the development of the industry. Indian railway is one of the fast-increasing service sectors which activate Trains in and just about diverse parts of the country. It offers a choice of facilities to The passengers and making truthful attempt to develop and improve the infrastructure arrangement in the relevant railway junction. The benefits of new Technology and development of atomization have been taken into account for given That various services to the Indian passengers. Indian Railways (IR) is a body under the ownership of Ministry of Railways, Government of India. It operates India's national railway system. The Fourth largest national railway system in the world by size. It has a total route Length of 67,956 km (42,226 mi) as of 31 March 2022. 83% (Length: 52,247 km (32,465 mi)) of all the broad-gauge routes are electrified with 25 kV 50 Hz AC Electric traction as of 1 April 2022.The freight segment,

IR runs 9,475 trains daily. The average speed of freight Trains is around 42.2 km/h (26.2 mph). The maximum speed of freight trains varies from 60–75 km/h (37–47 mph) depending on their axle load.

As of March 2020, Indian Railways' rolling stock consisted of 2,93,077 freight Wagons, 76,608 passenger coaches and 12,729 locomotives. IR owns Locomotive and coach-production facilities at different locations in India. It had 1.254 million employees as of March 2020. It makes the world's eighth-largest Employer. The government has committed to electrifying India's entire rail Network by 2023–24. IR also committed to become a "net zero (carbon emissions) Railway" by 2030.

The first railway track was operational in Madras in 1837 and the first passenger Train ran in Bombay in 1853.But the earlier railways were operated by private Companies with the earliest being the Madras Railway established in 1845 and the Great Indian Peninsular Railway incorporated in 1849. In October 1901, the Secretary of State for India in Council appointed Thomas Robertson as a special Commissioner for Indian Railways to prepare a report on the administration of Indian Railways. IN his report in 1903, Thomas recommended setting up of a three- Member Railway Board headed by a chief commissioner. In March 1905, the Railway branch of the Public Works Department was transferred to the newly Established railway board under the department of commerce and industry by the Indian Railway Board Act. In 1908, the set up was re-organized on the Recommendations of the Railway Finance Committee (1908) by constituting the Railway board headed by a president as a separate department. Pursuant to the Acworth committee's recommendations in 1921, the railway board was expanded to four members with the addition of a financial commissioner in 1924 apart from the chief commissioner, one commissioner responsible for ways and works, projects and stores and the Other responsible for general administration, staff and traffic. In 1929, an additional member was added to the board and was assigned the Responsibility for staff, so that the member in charge of traffic could focus solely on transport and commercial matters. In 1944, all the railway companies were taken over by the Government. In December 1950, the Central Advisory Committee for Railways approved the plan for re-organising Indian Railways into Six regional zones and re-constituting the railway board to four members with the Senior-most functional member appointed the chairman of the board with no Absolute over riding power. In October 1954, the chairman of the board was Made responsible for decisions on technical and policy matters, with the status of a Principal secretary to the Government of India with an additional member added.

The board was expanded with an additional member responsible for electrical Engineering in 1972 and a further member responsible for health in 1976. In 2004, the board is expanded by the introduction of two new members responsible for signalling & telecom and for stores respectively. In December 2019, the Union Cabinet decided to reduce the size of the board from eight to five.

1.2 ORGANISATION

Administrative officials	Title Name
• Minister of Railways.	Ashwini Vaishnav
• Minister of State, Railways	Raosaheb Danve, Darshana Jardosh
• Chairman and CEO of Railway Board	Jaya Varma Sinha

The ministry has a union minister and one or more ministers of state. The railway Board reports to the union ministry with the directorates of traction, engineering, Traffic, rolling stock, signalling, materials, personnel, RPF, finance, health and safety Reporting to the board. Indian Railways is a statutory body that reports to Parliament and is under the ownership of ministry of railways. Indian Railways Is further divided into 18 administrative zones (17 operational), headed by general Managers who report to the board along with the heads of other institutions and Undertakings owned by the Indian Railways. The railway board consists of a chairman, four members responsible for operations, business development, human Resources, infrastructure and finance respectively. Also, part of the board are four Director generals responsible for human resources, health, RPF and safety.

1.3 Railway Budget

The first railway budget was presented in 1924. Since then, Railway budget was presented as a standalone budget every year before the union budget till 2016.The last Railway Budget was presented on 25 February 2016 and on 21 September 2016, Government of India approved merger of the rail and general budgets from 2017.The railway budget is estimated to be ₹264,600 crore (US$33 billion) for the financial year 2023–24

1.4 History of Indian Railways

- 1832-1837: In Madras, India's initial railway ideas were made in 1832. Between 1836 and 1837, Arthur Cotton's Red Hill Railway, which was designed to Transport granite for road construction, went from Red Hills to Madras's Chintadripet Bridge. The first railway on the Indian sub-continent ran throughout 21 miles from Bombay to Thane.
- 1843: The idea of a railway to connect Bombay with Thane, Kalyan, and with the Thal and Bhora Ghats inclines first occurred to Mr. George Clark, the Chief Engineer of the Bombay Government, during a visit to Bhandup in 1843.
- 1853: The formal inauguration ceremony was performed on 16th April 1853, when 14 railway carriages carrying about 400 guests left Bori Bunder at 3.30 pm "amidst The loud applause of a vast multitude and to the salute of 21 guns."
- 1854: The first passenger train steamed out of Howrah station destined for Hooghly, a distance of 24 miles, on 15th August 1854.Thus, the first section of the East Indian Railway was opened to public traffic, Inaugurating the beginning of railway transport on the Eastern side of the sub-Continent.
- 1856: In the south, the first line was opened on 1st July 1856 by the Madras Railway Company. It ran between Vyasarpadi Jeeva Nilayam (Veyasarpandy) and Walajah Road (Arcot), a distance of 63 miles.
- 1859: In the North, a length of 119 miles of line was laid from Allahabad to Kanpur on 3rd March 1859.
- 1862: The first Railway Workshop was established at Jamalpur, near Munger, Bihar, in 1862. It gradually became one of the major industrial units of India, with Iron and steel foundries, rolling mills, and more.
- 1864: The north got its first station – the Delhi Junction. The oldest one of the Cities, it was a major station and junction and remains so to date. It was first established near Chandni Chowk in 1864 when trains from Howrah/Calcutta started operating up to Delhi. The current building was made Operational in 1903.
- 1875: The first section from Hathras Road to Mathura Cantonment was opened to Traffic on 19th October 1875. These were the small beginnings that in due course developed into a network of Railway lines all over the country. By 1880 the Indian Railway system had a route

mileage of about 9000 miles. 1880: The Darjeeling Steam Tramway (later the Darjeeling Himalayan Railway) Started its first section between Siliguri and Kurseong. The line was extended to Darjeeling in 1881. This Line operated on Narrow Gauge and was accorded World Heritage Status in 1999, the first Railway in Asia to get such a standing.

- 1895: After four decades of importing ready-made British locomotive parts for Assembly, in 1895 the first steam locomotive was manufactured completely in India at the Ajmer Workshop.
- 1899: The Nigiri Mountain Railway is among the first, and still outstanding, Examples of a Hill Passenger Railway. Opened in 1899, it was extended up to Ooty In 1903. It was a bold and ingenious engineering initiative to establish a rail link Across a mountainous terrain of great beauty. The "engineering marvel" still stands, a testimony to the skills of Railway Engineering. It was accorded World Heritage Status in 2005.
- 1903: The Kalka Shimla Narrow Gauge Railway opened for traffic in November 1903. This line was accorded World Heritage status in 2008. Indian railways, the premier transport organization of the country is the largest rail Network in Asia and the world's second-largest under one management.
- 1914-20: The railroads were employed to suit British demands outside of India as The First World War broke out. The railways had seen great losses and were in Disrepairafterf World War One. In 1920, the government assumed control of the Railways and severed the connection between their funding and other state Resources, a practice that is still in place today with a distinct railway budget.
- 1945-47: Trains were redirected to the Middle East during the Second World War And railway workshops were turned into weapons factories, severely crippling the Railroads. A sizable chunk of the railways was allocated to the then-recently Created Pakistan at the time of independence in 1947. A total of 42 different railway networks, including 32 lines held by the former Indian princely states, were combined to establish the Indian Railways, a unified Organization. This Line operated on Narrow Gauge and was accorded World Heritage Status in 1999, the first Railway in Asia to get such a standing.
- 1951: The organization of Indian railways into regional zones began in 1951, when The Southern (14 April 1951), Central (5 November 1951), and Western (5 November 1951) zones were created. National Rail Museum, the first rail museum in India, was established in 1977 at Chanakyapuri, New Delhi. The Indian Railways now have 33 Museums, Heritage Parks

and Galleries spread all across the country. The railways became popular at an unprecedented speed. The frequency and the Number of trains were increasing as more and more people become dependent on Its services. At the same time, there was a need to enhance the safety of the passengers and the Number of trains on the track increased. Many instruments were thus developed for Better management of railway sections.

1.5 Railway Infrastructure

Pamban Bridge is the railway bridge that connects Rameswaram on Pamban Island To mainland India.

Opened on 24 February 1914, it was India's first sea bridge.

The rail bridge is, for the most part, a conventional bridge resting on Concrete piers, but has a double-leaf bascule section midway, which Can be raised to let ships and barges pass through. One of the latest challenges undertaken by the Indian Railways is the building of the steel bridge over the Chenab to Jammu.

- 1947–1983: Zonal re-organisation and further developments The first locomotive manufacturing unit at Chittaranjan was commissioned in 1950. In December 1950, the Central Advisory Committee for Railways approved The plan for re-organising Indian Railways into six regional zones with The Southern (14 April 1951), Central (5 November 1951), and Western (5 November 1951) zones being the first to be created. On 14 April 1952, The Northern Railway, the Eastern Railway and the North Eastern Railway were Created. In 1952, fans and lights were mandated for all compartments in Passenger trains and sleeping accommodations were introduced in coaches. In 1953, the Indian Railways completed hundred years of operation which was Commemorated by multiple events and a commemorative postage stamp. The First diesel locomotive used in India was fabricated by North British Locomotive Company in 1954. On 1 August 1955 the South-Eastern Railway was split from The Eastern Railway, and, the following year, divisional systems of administration Were set up for the various regional zones. The first rail coaches were Manufactured in India from 1956 when the Integral Coach Factory was established At Madras. In 1956, the first air-conditioned train plied Between Howrah and New Delhi. In 1958, the North-Eastern Railway split to Form a new Northeast Frontier Railway.

- 1984–present: Rapid transit and later developments. A typical red-colored ICF coach used by the Indian Railways till the late 1990s. The first metro rail was introduced in Calcutta on 24 October 1984 with the line Between Esplanade and Bhowanipore. In 1986, computerized ticketing and Reservations were introduced by Indian Railways. In 1988, the first Shatabdi Express was introduced between New Delhi and Jhansi. Two years later, the first Self-printing ticket machine (SPTM) was introduced in Delhi. In 1993, air- Conditioned three-tier and sleeper were introduced. In 1995, Chennai MRTS became the first operational elevated railway line in India. In 1995, Delhi Metro Rail Corporation, a joint venture between Government of India And Government of Delhi was established. Centralized computer reservation System was deployed in Delhi, Mumbai and Chennai in September 1996, coupon Validating machines (CVMs) were introduced at Mumbai CSMT in 1998 and the Nationwide concierge system began operation on 18 April 1999.

The Indian Railways website went online in February 2000. Indian Railways Catering and Tourism Corporation (IRCTC) was incorporated in 1999 and online Ticketing was introduced on 3 August 2002 through IRCTC. The first line of The Delhi Metro was inaugurated on 24 December 2002.

Introduced in 2019, Vande Bharat Express operating on a train-set built by ICF, is the fastest train in India. Starting in the 2010s, various infrastructure modernization projects have been undertaken including high-speed rail, redevelopment of 400 stations, doubling tracks to reduce congestion, refurbishing of coaches, Global Positioning System (GPS)-enabled tracking of trains and modernization of locomotives. In 2018, a semi-high speed self-propelled train-set capable of reaching speeds of over 160 km/h (99 mph) was rolled out from ICF and the Vande Bharat Express was launched in 2019. Indian Railways announced plans to become a net-zero carbon emission railway by 2030 and has implemented rainwater harvesting at stations, reforestation along the tracks, introduction of solar-powered trains, installation of solar and wind power generation facilities, and sustainable LED lighting at all the stations. Indian railways removed all unstaffed level crossings by 2019 with staffed level crossings being replaced by bridges. Other safety projects include the extension of an automated fire alarm system to all air-conditioned coaches and GPS-enabled Fog Pilot Assistance System In 2020, Indian Railways allowed the operation of private passenger trains for the first time with the first train flagged off from Coimbatore in June 2022.

1.6 STATEMENT OF THE PROBLEM

India is one of the largest countries in terms of its geographical size which requires efficient means for long-distance transportation. The public transport, being primary mode of transport remains as a powerful yardstick to measure the overall development of a nation. Among the various modes of transport, railways are one of the biggest modes of passenger transport in the world. The railway passenger services face long term competitive threats from airlines, luxury buses, personalised transport and improved public transport. Low-cost airlines are giving stiff competition. to upper class segments of the railway passenger service. Though there are competitions from various modes of transport, the railways have its own unique features and provides more services to the passengers. In order to compete with other modes of transport, it is inevitable for railways to accelerate the growth of passengers' origination. This can be done by providing more quality services to them. Further, the opinion of the passengers towards the services provided by the Indian Railways will be quite different as they vary in socio-economic characteristics. It is essential for the Railway Authorities to know about the opinion of the passengers regarding the services offered to them in order to make future policies and provisions. Based upon the opinion of the passengers, their satisfaction level is decided. The Indian Railways can perform well only when the passengers are satisfied with the services they obtain.

1.7 OBJECTIVES OF STUDY

- To find out the Demographic Factor.
- To find out the satisfaction level of the passengers in Indian Railways.
- To know the priority areas so that they can be strengthened to optimize passengers satisfaction,

1.8 SCOPE OF INDIAN RAILWAYS

- Ensure the safety.
- Ensure the security.
- Boost the confidence of the public in Indian railways.

1.9 RESEARCH METHODOLOGY

Research is an original contribution to the existing stock of knowledge. It suits with the help of study, observation etc, the search for knowledge through systematic method of finding solution to a problem is called systematically. It is the science of studying how the research is done.

This study is based on the primary data. The required information was collected through the questionnaire by interviewing the samples directly. In this study convenient sampling method is used and data were collected from hundred samples, and according to the fulfilment of the questionnaire hundred samples were finalised and taken for analysis.

The methodology of the study includes:

- Data Collection
- Sample size
- Area of study
- Statistical tools

1.10.1 METHODS OF DATA COLLECTION

Primary Data

Primary data was collected for the first time. The research mainly depends on the primary sources of the data. It is original and collected for a specific purpose are to solve a specific. Primary data was collected from the Respondents by using the questionnaire method and also an interview method.

Secondary Data

Secondary data already exists in one form or another. The secondary data are collected from magazines, journals, newspapers, catalogues and internets, etc.,

1.10.2 AREA OF THE STUDY

The study has been made in Coimbatore. Coimbatore is one of the top 10 fastest growing cities of India. It is the second largest city in the Indian state of Tamil Nadu and the 15^{th} largest urban

agglomeration in India with a metropolitan population of over 2 million. Within the Coimbatore city, are collecting the primary data for this present study.

1.10.3 RESEARCH DESIGN

The research design adopted in the study was descriptive design. Which is concerned with the descriptive of a group. In descriptive research in such a way that the Respondents is able to understand clearly what the researcher wants and provides distinct information to measure data.

1.10.4 SAMPLE SIZE

Sample size refers to the number of items to be selected from the population constitute a sample. The sample size for this study is 153.

1.10.5 PERIOD OF STUDY

The period of study is six months from Jan 2023 - May 2024

1.10.6 STATISTICAL TOOLS

Following statistical tools has been used.

- Pearson Correlation
- Simple percentage method

HYPOTHESIS

Null Hypothesis

1.10.7 LIMITATIONS OF THE STUDY

- This study has 153 respondents.
- The area of the study covers only Coimbatore city.
- Today's findings may not hold true for the future.
- The study was only made up of the passengers of Indian railways.

1.11 CHAPTER SCHEME

CHAPTER 1: Introduction, Statement of the problem, Objectives of study, Scope of study, Research methodology, Chapter scheme.

CHAPTER 2: Review of literature

CHAPTER 3: Overview of the study

CHAPTER 4: Analysis and Interpretation

CHAPTER 5: Findings, Suggestion and conclusion of the study

CHAPTER 2

CHAPTER 2

REVIEW OF LITERATURE

2.1 INTRODUCTION

The literature has been reviewed from the reputed journals of both National and International journal pertaining to Indian railways and its related benefits. The literature has been reviewed from textbooks and websites.

2.2 REVIEW OF LITERATURE

Christoph Wolff (2001) summarized that Indian Railways must separate tangential areas, such as manufacturing and catering, from its core business of providing logistics service for freight customers and passenger service. India has the world's most vertically integrated rail system.

R.Thirumoorthy (2001), in his study, "Consumer Images of Indian Railways- A study in Madurai Railway Station", has found that the image of the Indian Railway dependentaing on its performance. **Koichi Goto (2001)** in his article, " Passenger Service Technologies" has described the trend in seat reservation systems, automatic ticket machine in stations, automatic fare collection system, automatic ticket checking machines, revolutionizing ticket system using contact less IC cards and a guide system IC chips programmed with location information are embedded in tactile used to mark paths for visually impaired people; this is read by a cane with an embedded antenna and verbal directions are given by a pocket-sized portable machine. The machine will guide him or her right platform.

G.Jeganathan (2002) in his study, "Commuters of Railways – An Attitude Study with Special Reference to Tirunelveli - Nagercoil Section" has found that if season ticket fares are reduced for long distance travel, it is an added attraction to the commuters. R. Kavitha (2004) in her study "A Study on Passenger Amenities at Madurai Railway Junction", has pointed out that majority of the pay and use toilets are well maintained and kept clean.

Rama Prasad (2002) found that the more general compartments will be required for short distance travellers' and it has been found that most of the passengers are not happy particularly with the quality of food. Quality of food should be improved and variety of items should be introduced. Jeganathan (2002)] study has found that if season ticket fares are reduced for long distance travel, it will be an added attraction to the commuters.

Makesh (2002) objectives of the study were to measure the level of job satisfaction of employees of Indian Railways and to study the working conditions in the Southern Railways. Sonia Kolesnikov and Jessop (2003) [found that India has climbed aboard more enthusiastically than any country. The Deccan Odyssey features cars resembling a maharajah's palace, Royal Rajasthan on Wheels, offers even more luxurious accommodations that include a spa, a boardroom carriage and Wi-Fi Internet access.

Arpita Mukherjee and Ruchika Sachdeva (2004) outline an efficient railway system lowers the cost of transportation, integrates people and markets across the country, links backward regions with the mainstream economy by opening them up to trade and investment, and thereby increases the overall productivity and global competitiveness of the economy.

Asian Business Review (2004) outlined India is considered to be the latest Asian economy to reach "tiger" status, is spending billions of dollars with the help of the Asian Development Bank to upgrade its infrastructure. - Australian Swiss locomotives for Indian Railways.

Ramesh Nanaji Wasnik (2004) understood that railway authority must take some steps to prevent the accidents by acknowledging the safety engineering, training and awareness among staff, attentive surveillance, high quality maintenance and strict law enforcement.

Konkan Railway Corporation Limited (2004)] (A Government of India Undertaking) The interesting and motivational advances in highway and railway crossing technology and operations, with over 38000 level crossings and complex nature of road traffic, India ranks better than many advanced countries in safety at level crossings with 0.10 accidents per million train Kms, surpassing France, USA and Japan etc.

John Gabriel and Suresh Babu (2005) [the] study revealed that railways are setting up the computerized reservation centres and have authorized out-agency bookings and hence all these facilities reveal the efficiency of reservation services of the railways and the study also revealed that the railways is the only organization providing maximum passenger reservation services to the travelling public most efficiently and effectively.

Sumathy (2005) study pointed out that South India is noted for the large number of important Hindu festivals. Not less than 175 festivals are held annually at southern part of India. Special trains were operated during festival time. Temporary waiting halls, latrines etc., were provided at Kumbakonam and seventeen other stations on festival occasions. Special arrangements were made at Kumbakonam in 1933

Vijay Durga Prasad (2005) [in] this research various amenities provided by Indian railways at stations and on board are analysed. He suggested enhance the quality of fast-food items sold in the pantry car and at refreshment stalls on platforms, the design of the iron shutters of the window should be modified, fire extinguishers must be provided in each compartment and coach attendant and TTEs have to be trained to use them, Public Address System can be provided in all express trains, the same should be used for playing music for entertainment on board

Mudit kulsreshtha and Barnali Nag (2005) [in] this paper they derived that long run structural relationships for all the three classes, viz. upper, second and ordinary second class.

Anand K Sharma & Mathew J Manimala (2007) [outline] that there were external as well as internal causes for the declining performance of Indian Railways. The budgetary support from the Central Government was dwindling and its financial situation did not allow higher budgetary support to the Ministry of Railways, besides the competition from road and air was increasing - Sustainability of The Indian Railways Turnaround: A Stage Theory Perspective

G. Raghuram Rachna Gangwar (2007) states that IR needs to respond to the industry specific needs by interacting with them regularly. There is a potential for IR provided high capacity wagons, special purpose wagons, bigger train loads, closed circuit rakes and round the clock operations are given significant focus based on the customer specific requirements. Karan Kumar (2007-08)

summarized Metro City Railway Stations like Delhi, Mumbai need to be modernized to provide world – class passenger amenities and services to the large multitude of passengers using these stations. IR is planning to do so by attracting private investments in the area by allowing the areas around the stations and the air space above platform to be commercially developed while operational/passenger. Manmohan Parkash (2008) summarized that railway industry has been transformed to face the challenges of a market economy. Such transformation includes a continuous restructuring of the organization and its working methods and the introduction of some of the most modern processes and techniques available adapted to best suit the situation in the PRC. The Railways of the People's Republic of China: An Agenda for Action, Asian Development Bank, Publication Stock .

Vivek Kumar and Vikas Rastogi (2009) reveals Indian Rail transport is one of the major mode of transportation, so it must offer high comfort level for the passengers and the staff. However, the comfort that passengers experience is a highly complex and individual phenomenon. The improvement of passenger comfort while travelling has been the subject of intense interest for many train manufacturers.

Dan Bogart & Latika Chaudhary (2010) [1]analyzed that Indian railways experienced rapid TFP growth of 1.7 percent per year from 1874 to 1912. Moreover, we find no evidence of a decline in TFP relative to trend following state takeovers of private companies. Our estimation relies on a key feature of the institutional background whereby the former private railway companies were taken over by the Government of India at predetermined dates set by contracts negotiated in the 1850s and 1860s.

Muzammil Hanif, Sehrish Hafeez and Adnan Riaz (2010) brings in the factors affecting customer satisfaction is of worth importance in order to know the reasons or the factors which are responsible to create satisfaction among customers for a better Indian railway sector.

Sheeba. A. A Dr. K. Kumuthadevi(2013) In this paper concluded that the determinants that frequently pressure the satisfaction of passengers (customers) in rank order is Basic facilities, Hygiene, Safety & Security, Catering, Health Care Service, Punctuality, and lastly and the least important factor is Behavior towards Passengers. The Indian Rail transportation is gaining consequence day by day. With the enlarge of passengers, the Indian Railways has paying attention to

enlarge its notice to satisfy the needs of customers and made initiatives to improve the quality of service to improve the satisfaction of customers. Even though frequent effort made by the Railways to improve the quality of services, the result would not satisfied the customers (passengers) needs. It reveals that, continuous, complete, lengthy intentional performance and attempts are essential to solve these problems.

Gomadheeswaran And Shivakumar (2014) entitled study on 'passengers" satisfaction towards railway services with special reference to Coimbatore junction". The main objectives of study are to analyse the passengers" satisfaction of various services provided by the Indian railways. There are 100 Respondents have been used this study. ANOVA, coefficient of correlation and simple percentage are the statistical tools used in this study. The study concludes or reveals that the Respondents totally dissatisfied the railway service in Coimbatore junction. Such as unauthorized vendor, beggars, cleanness of compartment and food etc.

V.Rajeswari, K.Santa kumarai (2014) in this study is actually a giving to classify the factors that find out passenger satisfaction in train with service quality of services provided by the Indian Railways. The quality of service that regularly involve the satisfaction of passengers in arrangement of organization.

Vimal Kumar And Jitiin (2015) in their study, A study on passenger satisfaction towards Railway services with reference to Coimbatore Junction says that transport is the movement of people, animals and goods from one location to another location. Transportation infrastructure assumes a great in developing countries because every sector depends on the suitable transportation. The main objective of the study is to explore the problem faced by the daily passengers.

D. Anbupriya, Dr. S. Subadra (2016) entitled study on "Passengers satisfaction towards railway services. Objective of the study is to identify the travel factors influencing the passengers of southern railways. There are 400 out of 460 respondents have been used this study satisfaction of service quality were analyzed using various tools and ANOVA was used to identify the significant difference concludes or reveals that the totally responds considered positivity, that would be a strong environment to the passengers and railways.

Maheswari and Dinesh kumar (2016) entitles study on „amenities provided by southern railways". The objective of the study is to know the profile of Indian Railways and the facilities provided to

them by the railway. The sample size decided for the study was 200 and analyzed using statistical tools like chi-square. The result of the study reveals that proper measures have been taken for the problems faced by the passengers.

J.Priyadharshini and M.Selladurai, (2016) In this paper the study is able to complete research objectives, by carefully analyzing and identifying aggressive location of railway strength and weakness among the passengers. Indian railways should go behind receiving the review feedback from the passengers in their respective trains at least three to six month once. The reservation systems and infrastructure facilities in both trains and railway stations has to be improved. The railway staffs and assistant or helper can appoint for each coach and improved security system towards the passenger's expectations. Hence the human touch is more required as we compare airlines services which we missing in Indian railway passenger services. In this aspects more recover its show in the satisfaction levels of the passengers and take up a leading arrangement among the customer mind in enduringly.

In such a case there is a need of huge investment to prevent such fatalities. **Johnson, M. (2019)** . Transport or Transpiration is the movement of people, animals and goods from one location to another. The different modes of transport include air, rail, road, water, cable, pipeline and space. Transport infrastructure consists of the fixed installations including roads, railways airways, waterways, canals, pipelines and terminals such as airports, railway station etc. Transportation in infrastructure assumes a great in developing countries since all the sectors of the economy are closely dependent upon the existence of suitable transportation network. It contributes to the development and growth of the economy. Analysis,

Ranjan et al. (Citation2020), it was found that responsiveness on the part of the railway staff (Indian Railways) was an essential factor contributing to passenger satisfaction. A recent study conducted in supermarkets in Fiji found that service quality is positively related to customer satisfaction, increasing customer loyalty (Slack & Singh, Citation2020). Earlier, researchers found a positive association between responsiveness and customer satisfaction

CHAPTER 3

CHAPTER 3

OVER VIEW OF THE STUDY

3.1 OVER VIEW OF STUDY

Coimbatore Junction railway station

Coimbatore Junction railway station, also known as Kovai Junction railway station (station Code. CBE), is a major railway station located in the city of Coimbatore in the state of Tamil Nadu, India. It is one of the busiest railway stations in South India and serves as a gateway to the Nilgiri hills, a popular tourist destination. The station is operated by the Southern Railway zone of Indian Railways and has six platforms. Coimbatore is the third highest revenue generating station in the Southern Railway after Chennai Central and Egmore railway stations and is the station that generates about 45 percent of the revenue of the Salem Railway division. Coimbatore Junction is an important junction connecting major cities such as Chennai, Bangalore, Mumbai, Delhi, and Kolkata. It also serves as a gateway to several popular tourist destinations. Such as Ooty and Kodaikanal. Although Coimbatore railway station has the suffix Junction in its name, it's not a true junction. No new line starts from or ends at Coimbatore. It's just a passing railway station lies between Podanur Junction and Coimbatore North Junction.

Coimbatore Railway Station at Podanur started on 18 July 1861, upon the construction of the Podanur–Madras line connecting Kerala and the west coast with the rest of India.

Coimbatore lies on the Coimbatore–Shoranur 5 ft 6 in (1,676 mm) broad gauge. Current Coimbatore Railway Junction was started as a halt station at Old Coimbatore (Podanur) to Mettupalayam Branch line. It was built then opened on 1 February 1873, two months before MGR Chennai Central was opened as Madras Central. Until 1956, the Coimbatore Railway Division was functioning with Podanur as the headquarters. In 1956, the headquarters was shifted to Olavakkode, of Kerala state and was named Olavakkode railway division. In 1980, Olavakkode division was renamed Palakkad railway division. It comprised Kerala and western districts of Tamil Nadu. A new Salem railway division was carved out of the Palakkad railway division in 2006 with Salem as its headquarters. The city falls under the Salem Division of the Southern Railway zone of Indian Railways. Coimbatore is one among the top hundred booking stations of Indian Railways. Other major railway stations catering to the city include Coimbatore North Junction, Podanur Junction and minor stations at Pilamedu, Singanallur, Irugur Junction Periyanaickenpalayam, Thudiyalur, Madukkarai, Somanur and Sulur.

Kovai Junction

Indian Railways station

Main entrance of the station

General information

Other names Covai Junction

Location State Bank Road, Coimbatore, Tamil Nadu - 641018

Coordinates 10.996365°N 76.967222°E

Elevation 411.4 meters (1,350 ft)

Owned by Indian Railways

Operated by Southern Railway zone

Line(s) Chennai–Coimbatore line

Coimbatore–Shoranur line

Coimbatore–Mettupalayam branch line

Coimbatore–Pollachi line

Coimbatore–Chamrajnagar line(Proposed)

Tracks 15

Connections Bus, Taxi stand, Auto

Construction

Parking Available

Bicycle facilities No

Accessible Yes

Other information

Status Functional

Station code CBE

Zone(s) Southern Railway zone

Division(s) Salem

History

Opened 1873; 151 years ago

Electrified Yes

Location

Coimbatore Junction

Location within Tamil Nadu Background

It is one of the major train stations in South India. It is one of the A1 graded station in the Southern Railway.[10] This station comes under the jurisdiction of Salem division of Southern Railways and contributes to 50% of the revenues of the zone. It is one of the top booking stations in India according to Railways. Chennai Main, Egmore, Madurai Junction, Coimbatore Junction and Chennai Central are the most profitable stations of Southern Railways.

3.2 Lines

The station is connected with following railway lines

- Jolarpettai–Shoranur line double line, 1891
- Coimbatore–Pollachi line single line 1891 (Then as Meter Gauge Single Line)
- Coimbatore–Mettupalayam branch line single line 1873

3.3 Suburban stations

The other stations serving Coimbatore include Coimbatore North Junction (CBF), Podanur Junction (PTJ), Irugur
Junction (IGU), Madukkarai (MDKI), Pilamedu (PLMD), Singanallur (SHI),
Sulur Road (SUU), Periyanaickenpalayam (PKM), Thudiyalur (TDE) and Somanur
(SNO)

3.4 Connections

The terminus is connected to all the major places within the city such as:

- Town Hall - 0.5 km
- Coimbatore Integrated Bus Terminus - 10.1 km
- Kanchipuram Central Bus Terminus - 2.3 km
- Singanallur Bus Terminus - 7.9 km
- Ukkadam Bus Terminus - 1.0 km
- Podanur Junction - 6.4 km
- Coimbatore International Airport - 12.4 km.

3.5 Coimbatore station not utilized fully:

Rail users' associations

COIMBATORE: A total of 34 trains originate from Coimbatore and 96 pass through the station, but the potential of the city is not tapped fully, say rail users associations. KS Ramakrishnan Director of Kongu Railway Development Council, who obtained details of trains catering to Coimbatore through an RTI query to Southern Railway, said many rakes are parked in the station, which has only six platforms, for over ten hours.

For example, two trains are parked for over ten hours, he pointed out and suggested that the rakes could be used to operate services in new routes via Kinathukkadavu and Pollachi. According to him, rakes of Coimbatore -Mannargudi and Coimbatore -Pollachi trains remain parked during day and night respectively. Ramakrishnan said the Pollachi service could be extended till Madurai or Dindigul since the train is halting at Coimbatore station for nine hours. Likewise, the Chemmozhi Express from Mannargudi should be extended till Madurai or Rameswaram since the rake remains stationary in Coimbatore for 17 hours.

Further, activists say Southern Railway continues to ignore their suggestion to operate trains to southern districts through Kinathukkadavu and Pollachi. J Sathish DRUCC member and Joint Secretary of Residents Awareness Association of Coimbatore (RAAC), said, "In February 2023, Coimbatore will be celebrating 150 years and we hope for better management of resources and new train services since many stations across the country with six platforms handle more trains than Coimbatore."

K Jayaraj DRUCC member Salem Railway Division, said, "Several MPs and MLAs approached officials many times urging them to restore trains to Rameswaram and Tuticorin etc via Kinathukkadavu and Pollachi, but they maintain that there is no space in Coimbatore station to accommodate the rakes. The RTI reply has revealed that Coimbatore station is not fully utilized. Considering the fact that Coimbatore is the third largest revenue generator, officials should resume these trains without delay."

Pointing out that there are no originating trains from Podanur, which has five platforms, N Subramanian, secretary of Podanur Train Users' Association, said Podanur is the third oldest station in south India after Royapuram in Chennai and Tiruchi, It was opened in 1962. To reduce traffic congestion in Coimbatore, Podanur should be developed as second terminus.

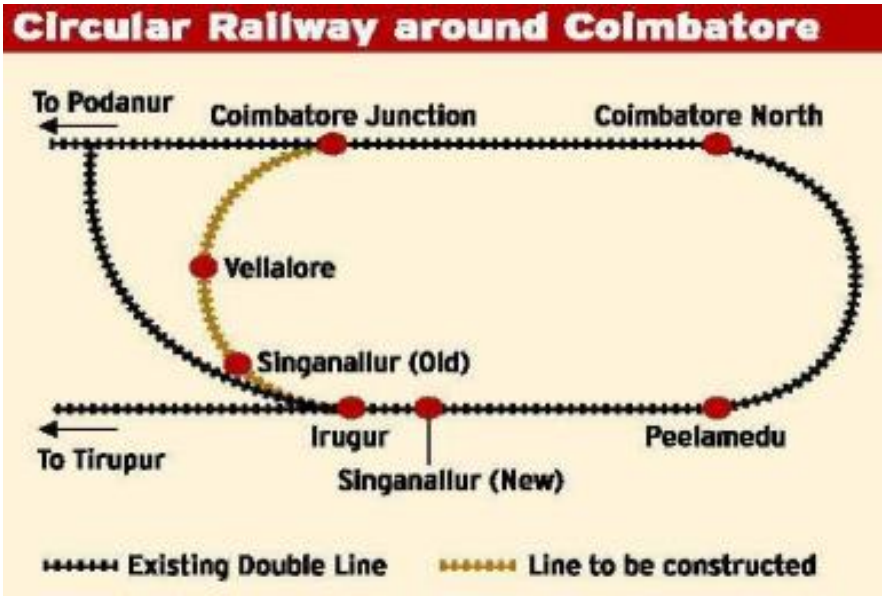
If Coimbatore - Chennai Intercity Express and Coimbatore -Nagercoil express originate at Podanur, it will benefit people in the surrounding of Podanur and Sundarapuram."

Salem DRM Gautam Srinivas told TNIE that as of now the railway has no plan to operate new train from Coimbatore and they have also yet to decide diverting rakes that are parked in Coimbatore.

Responding to another query, he said railway is addressing demands based on priority and that resumption of trains to Rameswaram and Tuticorin from Coimbatore is a policy decision.

Metrorail

Three Metrorail routes have been proposed. Two circular routes, in the northern and southern parts of the city and a dual linear line connecting the Eastern and Western parts. The Northern Route starts from Gandhipuram via Ganapathy, Sivanandha colony, Saibaba colony, RS Puram, Townhall, City railway station and ends in Gandhipuram. The second circular route starts from Podanur Junction via Trichy Road, Sungam, Redfields, Race Course, City railway station, Ukkadam and ends at Podanur. A linear line was also proposed from Chinniampalayam, Coimbatore International Airport, CODISSIA, PSG Tech, Lakshmi Mills, Gandhipuram, Coimbatore North Junction, Cowley Brown Road and TNAU. Recently Vadavalli and Thondamuthur are the two new areas that has been included in the linear line as part of the phase extension. In 2017,Tamil Nadu government announced that CMRL would prepare DPR and feasibility report for Coimbatore metro rail project and will be funded by German based company.



Freight trains

Rolling Stack

A covered wagon (left) and a WDG-4G diesel locomotive used to haul freight

Indian Railways hauls variety of cargo to cater to various requirements and have specialized rolling stock corresponding to the cargo hauled. There are 243 types of rolling stock used for cargo operations.[96] These include covered
wagons, boxcars, flat wagons, flatbeds, open wagons, hoppers, containers, automobile carriers, defense vehicle carriers and tankers.[97] The freight cars can often carry loads from 10 to 80 tonnes per car depending on the configuration.[97] A new wagon numbering system was adopted in Indian

Railways in 2003.[98] The requirement of wagons was previously met by Bharat wagon and engineering with the procurement and manufacturing now done by both in public and private sector.[1] The earliest goods trains in the 1800s were hauled by imported steam locomotives.[9] Locomotives are classified by various parameters including function (passenger/goods/mixed).[99] Indian Railways uses dedicated electric locomotives such as WAG series (Wide AC Goods), dedicated diesel locomotives such as WDG series and diesel locomotives of mixed usage such as WDM series to haul freight trains.

Network and infrastructure

Indian railways operates a 65,093 km (40,447 mi) 1,676 mm (5 ft 6 in) broad gauge network which is equipped with long-welded, high-tensile 52kg/60kg 90 UTS rails with pre-stressed concrete (PSC) sleepers and elastic fastenings.[1] These tracks are shared by both freight and passenger

trains with passenger trains often priortized on the network. The Dedicated Freight Corridor Corporation of India was established in 2006 to construct dedicated freight corridors to reduce congestion, increase speed and reliability and proposed upgradation of existing goods sheds, attracting private capital to build dedicated logistics terminals.

Services

A hybrid coach with provision to carry small cargo and mail, often attached to passenger trains. The first freight rail was operated between Bombay and Ahmedabad in 1966.[9] Indian Railways ferries various commodities and cargo to cater to various industrial, consumer, and agricultural segments. Apart from dedicated freight trains, parcels, mail and small cargo are carried on specialized carriages attached to passenger trains.[103] In 2022–23, Indian Railways operated 8,479 trains on average daily and transported 1418.1 million tonnes of

freight. Indian Railways has historically subsidized the passenger segment with income from the freight business and hence, freight services were unable to complete other modes of transport on both cost and speed of delivery, leading to continuous erosion of market share till the early 2000s.[104] To counter this, Indian Railways aimed to increase speed and reliability through various means including operating time-tabled freight trains and tweaking with the freight pricing/product mix.[105] End-to-end integrated transport solutions such as roll-on, roll-off (RORO) service, a road-rail system pioneered by Konkan Railway in 1999 to carry trucks on flatbed trailers has been extended to other routes.

Freight loads

Year	**1951**	**1961**	**1971**	**1981**	**1991**	**2001**	**2011**	**2021**	**2023**
Freight loading (million tonnes)	73.2	119.8	167.9	195.9	318.4	473.5	921.73	1233	1512

Express and passenger trains

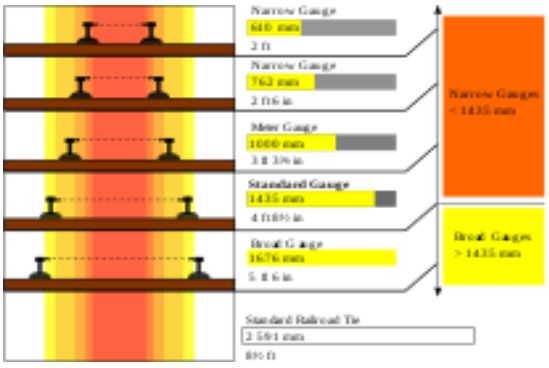
Rolling stock:

ICF coach

LHB coach

The early rail coaches were based on a prototype by a Swiss company and were termed as ICF coaches after Integral coach factory (ICF), the first coach manufacturing unit in India.[47] These coaches, manufactured from 1955 to 2018, were largely in use till the early 2010s.[107] From the late 1990s, the ICF coaches were replaced by safer and newer LHB coaches designed by Linke-Hofmann- Busch of Germany.[108][109] In the late 2010s, Indian railways started upgrading the coaches of select trains from LHB to new Tejas coaches with enhanced features.[110][111] As of March 2022, Indian Railways' had 84,863 passenger coaches.[1] Coaches are manufactured by five manufacturing units of the Indian Railways and public sector companies BEML and BHEL.[112] The coaching stock have unique five or six digit identifiers. Till 2018, the first two digits indicating the year of manufacture and the last three digits indicating the class.[113] In 2018, the numbering system was changed with the first two digits indicating the year of manufacture and the last four digits indicating the sequence number.

Network and infrastructure



Track:

As of 31 March 2022, Indian railway network spans 128,305 km (79,725 mi) of track length, 102,831 km (63,896 mi) of running track length and 68,043 km (42,280 mi) of route length.[1] Track sections are rated for speeds ranging from 80 to 200 km/h (50 to 124 mph), though the maximum speed attained by passenger trains is 160 km/h (99 mph). Spanning 65,093 km (40,447 mi) 1,676 mm (5 ft 6 in) broad gauge is the most used gauge with 1,000 mm (3 ft 3+3⁄8 in) metregauge metre gauge and 762 mm (2 ft 6 in) narrowgauge and 610 mm (2 ft) narrower gauge tracks limited to certain routes.[1] Indian Railways uses a range of signalling technologies and methods to manage its train operations based on traffic density and safety requirements.[1] It primarily uses coluredo signal lights, which replaced the earlier semaphores and disc-based signalling.

Station.

As of March 2022, Indian Railways manages and operates 7,308 stations.[1] Prior to 2017, the stations were classified into seven categories based on their earnings.[117] Since 2017, Indian Railways categorizes the stations by commercial importance into three different categories namely Non Suburban Group (NSG), Suburban Group (SG) and Halt Group (HG). These are further subdivided into subcategories based on their commercial importance (NSG 1–6, SG 1-3 and from HG 1–3).[118][117] The commercial importance of a station is determined by taking into account its passenger footfall, earnings and strategic importance and these categories are used to determine the minimum essential amenities required by each station

Services

Introduced in 2019, Vande Bharat train-set built by ICF, is the fastest in operation Rajdhani Express, introduced in 1969 with a maximum speed of 120 km/h (75 mph) was the fastest train service in the country in the 1970s. Shatabdi Express introduced in 1988, were capable of running at a maximum

speed of 130 km/h (81 mph). In April 2016, WAP-5 hauled Gatimaan Express became the fastest commercial train in India, with a maximum operational speed of 160 km/h (99 mph).[171] In 2019, the first Vande Bharat Express entered commercial service with a maximum operational speed of 160 km/h (99 mph). The actual operating speed was much lower due to track restrictions and congestion with top speeds restricted to 130 km/h (81 mph) for most trains.[172] In October 2023, Namo Bharat, built for RapidX by Alstom was launched and is capable of reaching speeds of up to 180 km/h (110 mph).[173] In December 2023, two modified WAP-5 locomotives were used to haul the Amrit Bharat Express in a push-pull configuration, capable of reaching speeds of up to 160 km/h

Mountain railways

Mountain Railways of India

Darjeeling

Kalka-Shimla

Nilgiri

Mountain Railways of India refer to three rail lines operated by Indian Railways in hilly terrain. Darjeeling Himalayan Railway, a 610 mm (2 ft) narrow-gauge railway in the Lesser Himalayas of West Bengal was opened in 1881. [176] The mountain railways were designated as World Heritage Sites in
1999.[176] The Kalka-Shimla Railway, a 762 mm (2 ft 6 in) narrow-gauge railway in the Siwalik Hills of Himachal Pradesh started operating in 1903. The Nilgiri Mountain Railway, a 1,000 mm

(3 ft 3+3⁄8 in) metre gauge rack railway in
the Nilgiri Hills of Tamil Nadu was opened in 1908 and is the only operational rack railway in India.[177][176] These railways operate with its own dedicated fleet of locomotives and coaches.

Tourist trains

Maharajas' Express

Indian Railways operates tourist trains and coach services on popular tourist circuits in different regions of the country. It operates luxury tourist trains such as Maharajas' Express, Palace on Wheels, Golden Chariot and Deccan Odyssey, deluxe tourist trains such as Mahaparinirvan Express. It also operates heritage and exhibition trains on special circumstances.

Cross-border services

India shares land border with multiple countries and have rail-links with some of them. Bangladesh is connected to West Bengal with a construction of new rail link connecting Tripura with Akhaura. Two rail links to Nepal exist as of 2021, with a third under construction.[183] There is an existing railink with Pakistan through Attari–Wagah border.

Private railways

The state-owned Indian Railways has an almost monopoly over rail operations. There are a few private railway lines used exclusively for transporting freight and to connect with the wider network. Private railways are operated by various ports such as Mumbai, Kolkata, Chennai, Visakhapatnam, Pipavav and the Bhilai Steel Plant. The Tata Group operates a few funicular

railways. In 2020, Indian Railways allowed the operation of private passenger trains for the first time with the first train flagged off from Coimbatore in June 2022.

Suburban Rolling stock:

In the 1960s, Electric multiple units (EMU) were developed for short-haul and suburban rail transit.[186][187] On short-distance routes, Mainline electrical multiple unit (MEMU) and Diesel electrical multiple unit (DEMU) trains are also run.These train sets run in formation of 6, 9, 12 or 15 coaches and a three-car set is typified by a motor coaches and two passenger coaches. These train-sets are self- propelled with capability for faster acceleration or deceleration

Network

Suburban lines were built starting with Bombay in 1853, followed by Calcutta and Madras in the later years. The first 1.5kV DC electrified tracks became operational in the late 1920s and early 1930s.[188] In 1957, 25 kV AC traction was adopted for suburban lines.

System	City	State	Image	Lines	Stations	Length	Opened
Mumbai Suburban[191]	Mumbai	Maharashtra		7	150	427.5 km (265.6 mi)	1853
Kolkata Suburban[192]	Kolkata	West Bengal		1	458	1,501 km (933 mi)	1854

Chennai Suburban[193]	Chennai	Tamil Nadu		3	53	212 km (132 mi)	1928[59]

System	City	State	Image	Lines	Stations	Length	Opened
Delhi Suburban[194]	Delhi	National Capital Region		1	46	85 km (53 mi)	1975
Chennai MRTS[195][59]	Chennai	Tamil Nadu		1	17	19.715 km (12.250 mi)	1995
Hyderabad MMTS[196][197]	Hyderabad	Telangana		2	44	90 km (56 mi)	2003

Services

The first suburban electric trains were introduced in Bombay in 1925.[188] Chennai suburban started operating in 1931 and Kolkata in 1957.[198][199] Opened in November 1995, Chennai MRTS became the first operational elevated railway line in India.[36] Indian Railways operates suburban railway systems across the cities of Mumbai (suburban), Chennai (suburban and MRTS), Kolkata (suburban) and Secunderabad (MMTS) covering six railway zones.[188] Suburban networks issue unreserved tickets valid for a limited time or season passes with unlimited travel between

Metro Rolling stock:

Metro trains use electric multiple unit train-sets manufactured by various state- owned and private companies.[202][203] The trains operate on 25 KV AC through an overhead catenary system with a maximum speed of 120 kilometres per hour (75 mph).

Network

The urban rail transit in India consists of systems such as rapid transit (Metro), suburban rail (operated by Indian railways), light rail (Metrolite), tram, regional rail and monorail. As of 2023, India has the fourth longest length of metro lines with 895 kilometres (556 miles).[Urban rail transit systems in India mostly use standard gauge tracks except a single line of Kolkata Metro and three lines of Delhi Metro which use the same broad gauge tracks as main-line railways.[4] These systems are operated by rail corporations independent of Indian Railways.[206] All metro routes are electrified with DC or 25 kV AC traction with many metro routes employing the third rail method for electric traction.

Services

Metro trains operatein Kolkata, Delhi, Bengaluru, Chennai, Mumbai, Pune, Hyderabad, Jaipur, Kochi, Nagpur, Ahmedabad and Lucknow. Gurgaon has a Metro system operated by a private organisation. Metro tracks are being constructed or planned in all million- plus cities in the country.

System	City	State	Image	Lines	Stations	Length	Opened
Kolkata ~~Metro~~[209]	Kolkata	West Bengal		4	48	59.38 km (36.90 mi)	1984
Delhi ~~Metro~~[210]	Delhi	National Capital Region		9	256	348 km (216 mi)	2002
Namma ~~Metro~~[211]	Bengaluru	Karnataka		2	63	69.6 km	2011

System	City	State	Image	Lines	Stations	Length	Opened
						(43.2 mi)	
Rapid ~~Metro~~[212]	Gurgaon	Haryana		1	11	12.85 km (7.98 mi)	2013

Mumbai Monorail [213]	Mumbai	Maharashtra		1	27	19.5 km (12.1 mi)	2014
Mumbai ~~Metro~~[213]	Mumbai	Maharashtra		3	43	46.4 km (28.8 mi)	2014
Chennai ~~Metro~~[214]	Chennai	Tamil Nadu		2	41	54.1 km (33.6 mi)	2015
Jaipur ~~Metro~~[215]	Jaipur	Rajasthan		1	21	12 km (7.5 mi)	2015

System	City	State	Image	Lines	Stations	Length	Opened
Kochi Metro[216]	Kochi	Kerala		1	22	25.6 km (15.9 mi)	2017
Lucknow Metro[217]	Lucknow	Uttar Pradesh		1	21	22.9 km (14.2 mi)	2017
Hyderabad Metro[218]	Hyderabad	Telangana		3	57	69.2 km (43.0 mi)	2017
Ahmedabad Metro[219]	Ahmedabad	Gujarat		2	29	38.6 km (24.0 mi)	2019
Noida Metro[220]	Noida	Uttar Pradesh		1	21	29.7 km (18.5 mi)	2019

System	City	State	Image	Lines	Stations	Length	Opened
Kanpur Metro[221]	Kanpur	Uttar Pradesh		1	9	9 km (5.6 mi)	2021
Pune Metro[222]	Pune	Maharashtra		1	27	19.5 km (12.1 mi)	2022
Navi Mumbai Metro[213]	Mumbai	Maharashtra		1	11	11 km (6.8 mi)	2023

Others

Apart from standard passenger and freight services, the Indian Railways operates other specialized coaches with various functions. These include accident relief medical vans, military cars, inspection carriages, and parcel vans. Various coaches such as pantry car, generator cars, and brake vans are attached to train-sets.

Manufacturing and maintenance

Indian Railways operates various manufacturing units. Chittaranjan Locomotive Works (CLW), commissioned in 1950, was the first locomotive manufacturing unit in India.[42] The first rail coache manufacturing unit, the Integral Coach Factory (ICF) was established at Madras in 1956.[47] Banaras

Locomotive Works (BLW), commissioned in 1961, is the second locomotive manufacturing unit operated by Indian Railways.

Bharat Heavy Electricals Limited (BHEL), Patiala Locomotive Works, Diesel Locomotive Factory, Marhowrah and Electric Locomotive Factory, Madhepura also manufacture locomotives in India

Railway coaches are also manufactured at coach factories at Karputhala, Raebareli, Sonipat and Latur.[112] Indian Railways also operates two rail wheel manufacturing factories at Bangalore and Chhpra.[112] The locomotives are operated and maintained by 44 locomotive sheds.[101][100] Indian Railways also maintains 37 sheds for the maintenance of multiple unit train-sets. The repair and maintenance of the fleet of other rolling stock is carried out at 212 carriage & wagon repair units and 45 periodic overhaul workshops across various zones of IR.[1] Metro coaches are manufactured by various companies including state-owned ICF, BEML and private companies like Alstom, Mitsubishi, Hyundai Rotem, Bombardier, Siemens, CRRC, Titagarh Firema and CAF with the respective metro systems maintaining their own maintenance depots.

Accidents and incidents

According to the India's National Crime Records Bureau, in 2021, more than 16,000 people were killed in almost 18,000 railway accidents across India. Almost 68 percent of the railway accidents were due to falls from trains and collisions between trains and people on the track. In the same year, almost 2000 people were killed in around 1500 rail-road crossing accidents across India.

Services

Travel classes:

Indian Railways offers various travel classes on its coaches. For the purpose of identification in passenger trains, coaches in a train-set are assigned an alpha- numeric code. The first letter identifies the coach class and the second letter identifies the coach number. The berths and seats are numbered by an alphanumeric code with the letter(s) identifying the berth/seat type and numbers identifying the position.

In standard coaches, the berths and seats are classified as follows

Coach code (First digit)

Class	Code	Image	Description
First AC	H		It is the most luxurious and expensive class in most express trains.[123][124] They have separate air-conditioned compartments with private lockable doors, bedding, dedicated attendants and meals served at seat.
First Class	F		First class is similar to first AC coaches with a combination of cabins and berths but are non air-conditioned and do not have all the facilities of first AC coaches.[125] They were started to be phased out of normal express trains starting in the 2000s and the last coach being de-commissioned in 2015.[126][127] The First class is still in use in toy trains where the coaches consist of seats similar to chair cars.
Executive Anubhuti	EA		Executive Anubhuti is the premium class of air-conditioned chair car equipped with retractable, large cushioned seats in 2x2 configuration. The class is equipped with an entertainment system, large luggage compartments, passenger information system, dedicated reading lights, power sockets and call buttons, modular bio toilets with automated taps. Meals often provided as a part of the journey ticket.[129] The class is available only in select trains.

AC Executive Class	E		AC Executive Class is often the top most class of air-conditioned chair car in express trains. It is equipped with large retractable seats in 2x2 configuration.[123][131] The class is equipped with dedicated reading lights and power sockets, modular bio toilets with automated taps. Meals are often provided as a part of the journey ticket.[125] In Vande Bharat Express trains, the class is equipped with more features including rotating seats, CCTVs, passenger information system, larger toilets, USB ports and automated doors.
Executive Vistadome	EV		AC Tourist cars have vistadome coaches with glass roofs and extra wide windows. The interiors are similar to AC chair car coaches. Select trains operating mostly on tourist circuits are equipped with such coaches. Indian Railways plans to introduce these coaches in all mountain railways.
Second AC or AC 2-tier	A		Second AC or AC 2-tier is an air- conditioned sleeping car with wide sealed windows. There are four berths arranged in two-tiers facing each other in a single bay with two-tiered berths arranged on the sides lengthwise across the corridor. Individual berths are equipped with curtains, simple bedding, reading lights and charging sockets. Food is available on order or as a part of the ticket depending on the train.[125]

Third AC or AC 3-tier	B		Third AC or AC 3-tier is an air- conditioned sleeping car. There are six berths arranged in three-tiers facing each other in a single bay with foldable middle berths and two-tiered berths arranged on the sides lengthwise across the corridor.[124] There are common charging sockets and lights in each compartment with simple bedding provided.[137] Food is available on order or as a part of the ticket depending on the train with the same menu shared with AC 2-tier.
AC 3-tier economy	M or G		AC 3-tier economy coaches are air- conditioned sleeping cars similar to AC 3- tier.[123] Compared to 3-tier coaches, they have an extra middle berth along the aisle.[125] The coaches were first introduced in Garib Rath trains and only a few trains operate with such coaches.[138] Bedding is available for rent and the coaches have facilities like charging sockets and lights similar to AC 3-tier coaches.
AC Chair Car	C		AC chair car are air-conditioned coaches equipped with retractable seats in 3x2 configuration. The class has cushioned seats with tray tables and are equipped with LED reading lights, power sockets along the window side. Meals are provided as a part of the journey ticket in select trains.[125] In Vande Bharat Express trains, the class is equipped with more features including passenger information system,

			CCTVs, larger toilets and automated doors.
Sleeper	S		Sleeper class is the most common sleeping car coach in Indian Railways. There are six berths arranged in three-tiers facing each other in a single bay with foldable middle berths and two-tiered berths arranged on the sides lengthwise across the corridor. The coaches are not air- conditioned and have open-able windows. There are common charging sockets, ceiling mounted fans and lights in each compartment. Food is available on order or can be purchased from vendors.
Second sitting	D		Second sitting is the most common chair car coach and the cheapest in the Indian Railways.[123] It is common in most day- time running trains with six seats arranged in 3x3 configuration. The seats may face each other or towards the same side. The coaches are not air- conditioned and have open-able windows. There are common charging sockets, ceiling mounted fans and lights in each compartment. Food is available on order or can be purchased from vendors.
Unreserved or General	UR/GS		Unreserved or general coaches are second seating coaches which are not available for reservation and seats are taken on available basis. One or more of these coaches are

			attached to express trains while dedicated passenger trains might also have all unreserved coaches. Tickets are valid on any train on a route only for within 24 hours of purchase.

Saloon coaches are also available for chartering which are equipped with a bedroom and kitchen and can be attached to normal trains.

Accident relief medical van

These are specially modified coaches with rescue and repair equipment. It may include various medical facilities with multiple beds, an operation theater, recovery and doctor rooms and is self-propelled by diesel motors in most cases. They may carry medical equipment like first aid box, body bags, stretchers, fire extinguishers and other rescue devices such as hydraulic equipment, air bags, slings and ropes, cutting tools, power generators and communication equipment.

Brake van

A Brake van is a wagon equipped with a hand brake which can be applied by the guard. The brake vans are attached to trains as the last coach and consists of an open room or cabin for the guard. The van is equipped with some emergency equipment, lighting box, signalling equipment and monitoring gauges. The brake vans are often combined with small parcel vans or generator cars.

Generator car

Power generator cars contain power generation equipment, often diesel generators which are used to power the equipment on the trains. There are one or two power cars attached to the trains. With electrification of railway lines, Indian railways is equipping train with head on generation (HOG), where power will be drawn from overhead lines and will eliminate the need of separate power generator cars.

Inspection carriage

Railway inspection cars are diesel powered self-propelled vehicles meant for collecting information on railway tracks for analysis and to generate plans accordingly.

Military car

Special cars are made for the purpose of Indian Armed Forces, both passenger and others. A military ward car is used as make-shift hospitals to carry wounded soldiers and are equipped with medical equipment. Crane cars and other cargo wagons are used for specific purposes by the Indian military.

Pantry car

A pantry car is a specialized car which is used for the preparation of meals and snacks to the passengers. The pantry car is equipped with refrigerators, boilers, stoves, warmers, storage compartments, cleaning sinks and other cooking and serving accessories.[57] Some of the trains are equipped with dining facilities as part of it. While pantry cars are separate cars attached with the rake, there are certain coaches which are equipped with mini pantry for serving meals to the passengers.

Parcel van

Parcel vans are used to carry mail, parcels and other cargo. These may be dedicated parcel vans or luggage cars combined with other functions which might be attached to passenger trains. These coaches have foldable luggage racks and collapsible partitions with sliding doors.

Trains Express trains of India

Rajdhani Express

Shatabdi Express

Further information: Express trains in India and Slow and fast passenger trains in India. Indian Railways operates various classes of passenger and express trains. The trains are classified basis average speed and facilities with express trains having fewer halts, priority on rail network and faster average speed. The trains are identified by five digit numbers with train-pairs traveling in opposite direction usually labelled with consecutive numbers. Express trains often have specific unique names for easy identification.[144] In 2018–19, Indian Railways operated 13,523 passenger trains on average daily and carried 8.44 billion

passengers.[145] India Railways operates various categories of express trains including Rajdhani Express, Shatabdi Express, Garib Rath Express, Double Decker Express, Tejas Express, Gatimaan Express, Humsafar Express, Duronto

Express, Yuva Express, Uday Express, Jan Shatabdi Express, Sampark Kranti Express, Vivek Express, Rajya Rani Express, Mahamana Express, Antyodaya Express, Jan Sadharan Express, Suvidha Express and Intercity Express.

Ticketing and fares:

A standard printed Indian Railway ticket In 1986, computerized ticketing and reservations were introduced before which ticketing was done manually. Self-printing ticket machines (SPTM) were introduced in 1988.[58] Centralized computer reservation system was deployed in September 1996. The ticketing network at stations is computerized with the exception of few stations. The Indian Railways website went online in February 2000 and online ticketing was introduced on 3 August 2002 through IRCTC. Indian Railways now provides multiple channels for passengers to book tickets

through website, smartphone apps, SMS, rail reservation counters at train stations, or through private ticket booking counters. Reserved tickets may be booked up to 120 days in advance and confirmed reservation tickets will show the reservation.

Passenger and fare details along with berth or seat number(s) allocated to them on the ticket.

In case of no confirmed reservation, a wait-list number is assigned and wait-listed tickets get confirmed if there are cancellations of already reserved tickets. Reservation against cancellation tickets is an intermediate category between the waiting and confirmed lists in sleeper classes which allows a ticket holder to board the train and share a berth.[146] Reserved tickets can be booked by passengers who want to travel at short notice at higher fares through the Tatkal train ticket, where no refund is applicable on cancellation.[147] A valid proof for the purchase of ticket along with photo identification is required to board the train.[148] Unreserved tickets for short distance or unplanned travels may be purchased at stations or through UTS mobile app at any time before departure.[149] Holders of such tickets may only board the general or unreserved coaches. India has some of the lowest train fares in the world, and lower class passenger fares are subsidised. Discounted fares are applicable for railway employees, senior citizens (over age 60), the differently-abled, students, athletes, patients and those taking competitive examinations. Seats of lower class of accommodation are reserved for women or senior citizens in some train.

CHAPTER 4

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

DATA ANALYSIS AND INTERPRETATION

The term analysis refers to the computation of certain measures along with searching for pattern of relationship that exists among the data groups. The main objective of the study is to find satisfaction level of people.

SIMPLE PERCENTAGE METHOD

Simple percentage analysis refers to a special kind of ratio. With the help of absolute figures it will be difficult to interpret any meaning from the collected data, but when percentages are find out then it becomes easy to find the relative difference between two or more attributes.

Percentages are used to compare the relative terms and the distribution of two or more series of data. A simple calculation of the frequencies from the data collected was the basis for more calculating the percentage of different factors. Through the use of percentage, the data are reduced in the standard form with base equal to 100%, which facilitate relative comparisons. Also, a more descriptive form of the analysis is shown in the form of chats.

FORMULA:

$$\text{Simple percentage analysis} = \frac{\text{Number of respondents}}{\text{Total number of respondents}} \times 100$$

PEARSON CORRELATION

The bivariate Pearson Correlation produces a sample correlation coefficient, *r*, which measures the strength and direction of linear relationships between pairs of continuous variables. By extension, the Pearson Correlation evaluates whether there is statistical evidence for a linear relationship among the same pairs of variables in the population, represented by a population correlation coefficient, ρ (“rho”). The Pearson Correlation is a parametric measure.

This measure is also known as:

- Pearson's correlation
- Pearson product-moment correlation (PPMC)

COMMON USES:

The bivariate Pearson Correlation is commonly used to measure the following:

- Correlations among pairs of variables
- Correlations within and between sets of variables

The bivariate Pearson correlation indicates the following:

- Whether a statistically significant linear relationship exists between two continuous variables
- The strength of a linear relationship (i.e., how close the relationship is to being a perfectly straight line)
- The direction of a linear relationship (increasing or decreasing)

DATA REQUIREMENTS:

To use Pearson correlation, your data must meet the following requirements:

1. Two or more continuous variables (i.e., interval or ratio level)
2. Cases must have non-missing values on both variables
3. Linear relationship between the variables
4. Independent cases (i.e., independence of observations)

There is no relationship between the values of variables between cases. This means that:

- the values for all variables across cases are unrelated
- for any case, the value for any variable cannot influence the value of any variable for other cases
- no case can influence another case on any variable
- The biviariate Pearson correlation coefficient and corresponding significance test are not robust when independence is violated.

5.Bivariate normality

- Each pair of variables is bivariately normally distributed
- Each pair of variables is bivariately normally distributed at all levels of the other variable(s)
- This assumption ensures that the variables are linearly related; violations of this assumption may indicate that non-linear relationships among variables exist. Linearity can be assessed visually using a scatterplot of the data.
- Random sample of data from the population
- No outliers

HYPOTHESIS:

The null hypothesis (H_0) and alternative hypothesis (H_1) of the significance test for correlation can be expressed in the following ways, depending on whether a one-tailed or two-tailed test is requested:

Two-tailed significance test:

H_0: $\rho = 0$ ("the population correlation coefficient is 0; there is no association")
H_1: $\rho \neq 0$ ("the population correlation coefficient is not 0; a nonzero correlation could exist")

One-tailed significance test:

H_0: $\rho = 0$ ("the population correlation coefficient is 0; there is no association")
H_1: $\rho > 0$ ("the population correlation coefficient is greater than 0; a positive correlation could exist")

OR

H_1: $\rho < 0$ ("the population correlation coefficient is less than 0; a negative correlation could exist")

where ρ is the population correlation coefficient.

TEST STATISTICS:

The sample correlation coefficient between two variables x and y is denoted r or r_{xy}, and can be computed as:

rxy=cov(x, y)var(x)−−−−−√⋅var(y)−−−−−√rxy=cov(x,y)var(x)⋅var(y)

where cov(x, y) is the sample covariance of x and y; var(x) is the sample variance of x; and var(y) is the sample variance of y.

Correlation can take on any value in the range [-1, 1]. The sign of the correlation coefficient indicates the direction of the relationship, while the magnitude of the correlation (how close it is to -1 or +1) indicates the strength of the relationship.

- -1: perfectly negative linear relationship
- 0: no relationship
- +1 : perfectly positive linear relationship

The strength can be assessed by these general guidelines **[1]** (which may vary by discipline):

- .1 < | r | < .3 … small / weak correlation
- .3 < | r | < .5 … medium / moderate correlation
- .5 < | r | …… large / strong correlation

TABLE NO 4.1

TABLE SHOWING AGE OF THE RESPONDENTS

Age		
	Frequency	Percent
Below 20 Years	37	22
21-30 years	75	50
31-40 years	18	12
41-50 years	16	11
Above 50 years	7	5
Total	153	100

INTERPRETATION

From the above table 22% of Respondents are belongs to the age group of Below 20 Years. Next 50% of respondence belongs to the age group of 21 – 30 years. 12% of Respondents are belongs to the age group of 31 – 40years. 11%of the Respondents are 41-50years .5% of the Respondents are Above 50 years.

Majority 50% of the Respondents are between the age group of 21-30 years.

CHART NO 4.1

CHART SHOWING THE AGE OF THE RESPONDENTS

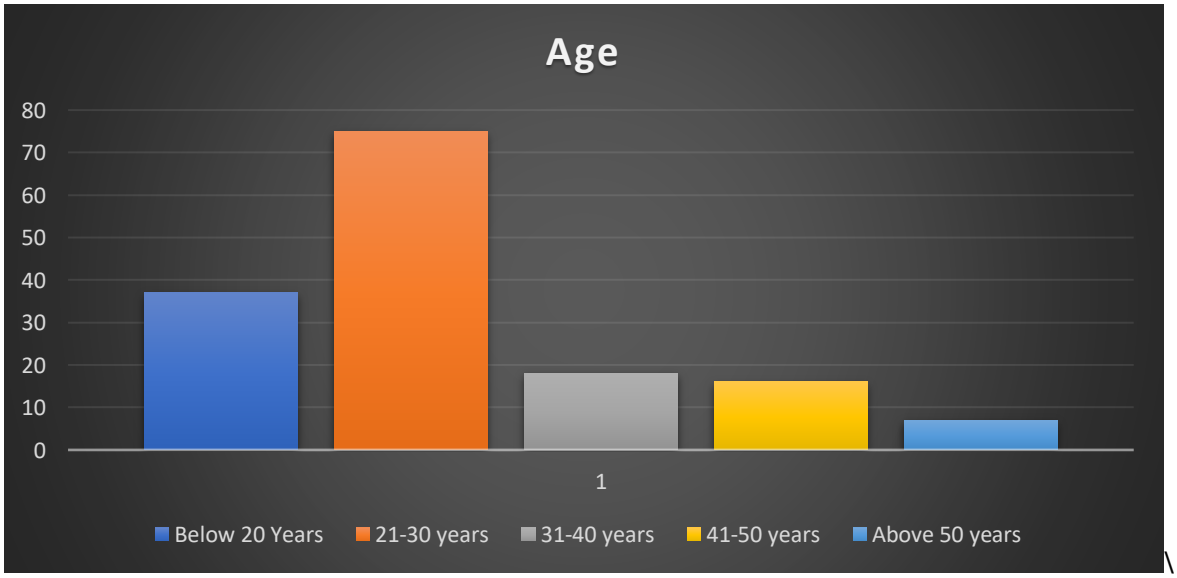


TABLE NO 4.2

TABLE SHOWING GENDER OF THE RESPONDENTS

Gender		
	Frequency	Percent
Male	55	35
Female	98	65
Total	153	100

INTERPRETATION

Table reveals the classification of Respondents based on their gender within the sample size of 153% of respondents.35% are belongs to the gender of Male. Next 65% of Respondents are belongs to the gender of Female.

Majority 65% of the Respondents belongs to female.

CHART NO 4.2

CHART SHOWING THE GENDER OF THE RESPONDENTS

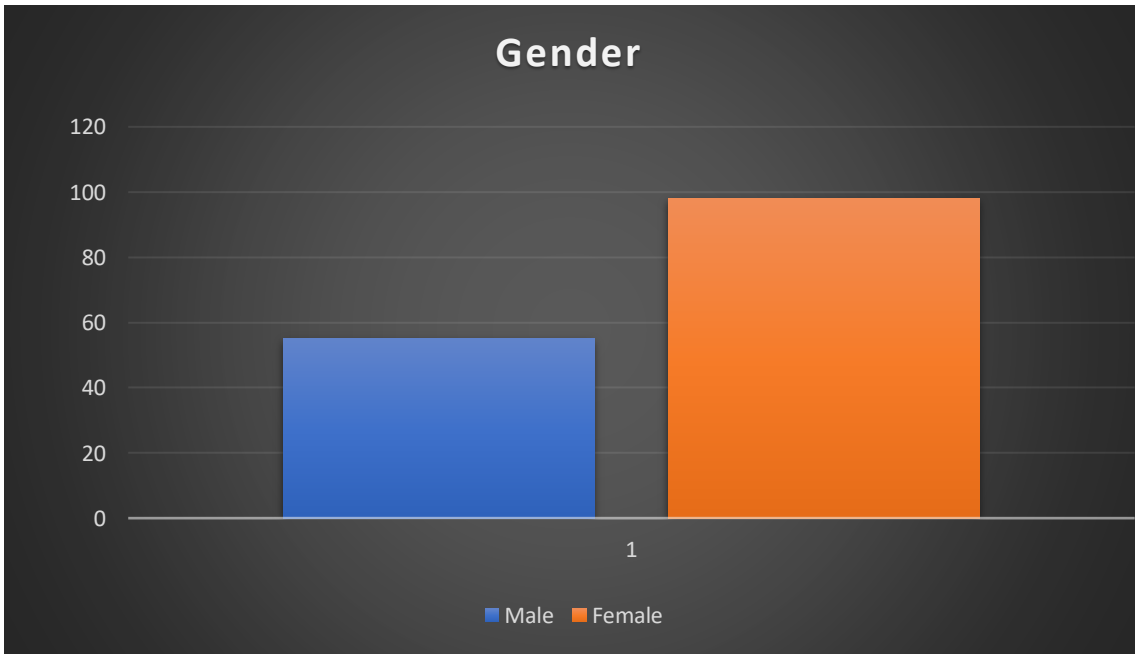


TABLE NO 4.3

TABLE SHOWS MARITAL STATUS OF THE RESPONDENTS

Marital Status		
	Frequency	Percent
Unmarried	48	31
Married	105	69
Total	153	100

INTERPRETATION

From the above table indicates that31% of respondent are belongs to Married and 69% of the Respondents are belongs to Unmarried.

Majority 69% of the Respondents belongs to married.

CHART NO 4.3

CHART SHOWING THE MARITAL STATUS OF THE RESPONDENTS

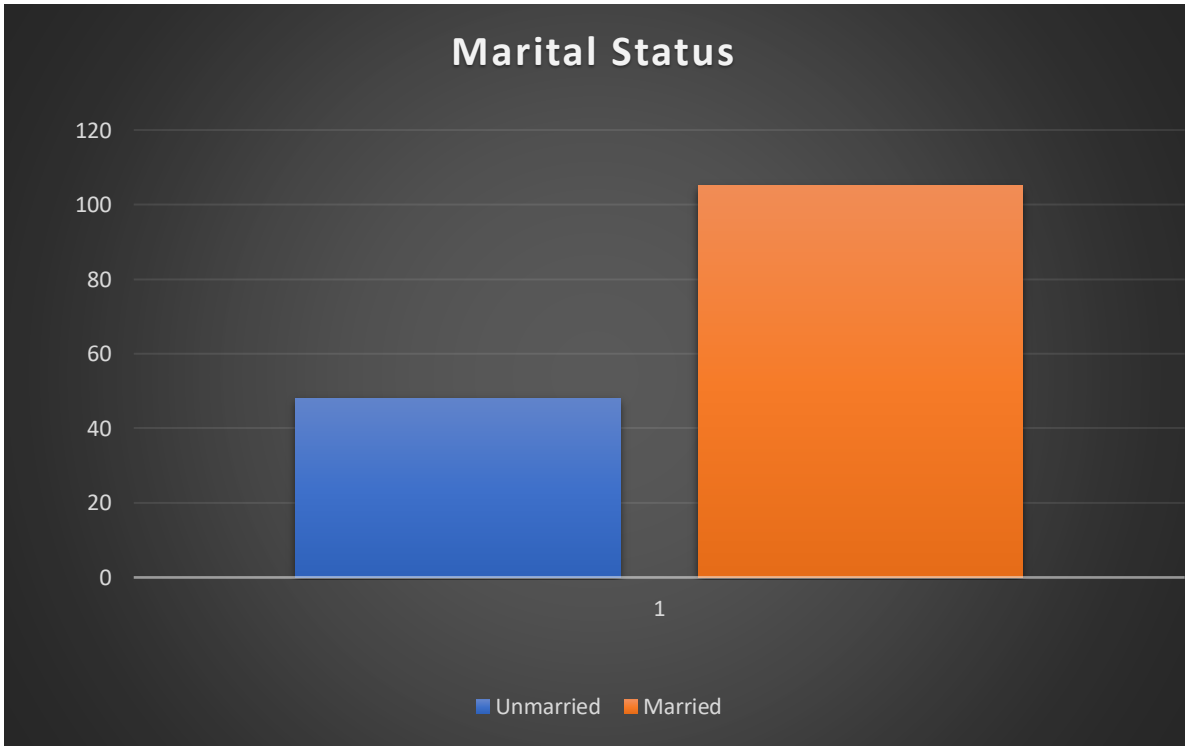


TABLE NO 4.4

TABLE SHOWING LITERACY LEVEL OF THE RESPONDENT

Literacy Level		
	Frequency	Percent
School Level	15	9
Under Graduation Level	68	44
Post Graduation Level	47	31
Professional Degree Level	19	13
Others	4	3
Total	153	100

INTERPRETATION

From the above table indicates that 9% of respondent are belongs to School level. Next 44% of respondence are belongs to the Under Graduation Level. 31% of Respondents are belongs to Post Graduation Level. 13% of respondence are belongs to Professional Degree Level. 3% of respondence are belongs to others. **Majority 44% of the Respondents are belongs to under graduation level.**

CHART NO 4.4

CHART SHOWING THE LITERACY LEVEL OF THE RESPONDENTS

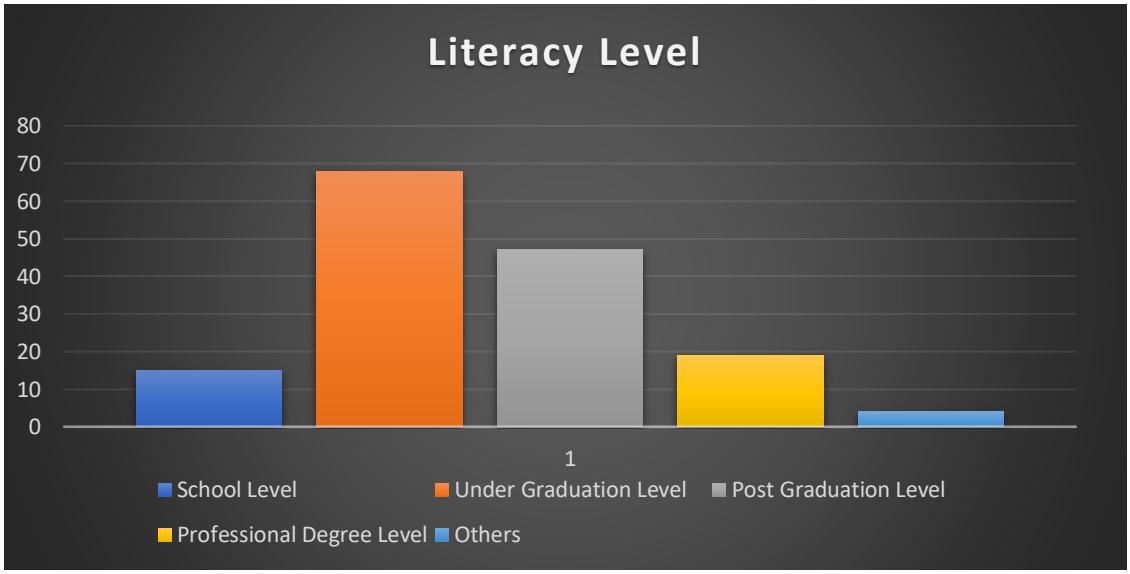


TABLE NO 4.5

TABLE SHOWING URBANIZATION OF THE RESPONDENTS

Urbanization		
	Frequency	Percent
Metropolitan	28	19
Urban	80	51
Rural	45	30
Total	153	100

INTERPRETATION

Table reveals the classification of Respondents based on their urbanization within the sample size of 153% of respondents. Next 19% of Respondents are belong to metropolitan. 51% of Respondents are belong to urban. 30% of respondent are belong to rural.

Majority 51% of the Respondents belongs to urban.

CHART NO 4.5

CHAT SHOWING THE URBANIZATION OF THE RESPONDENTS

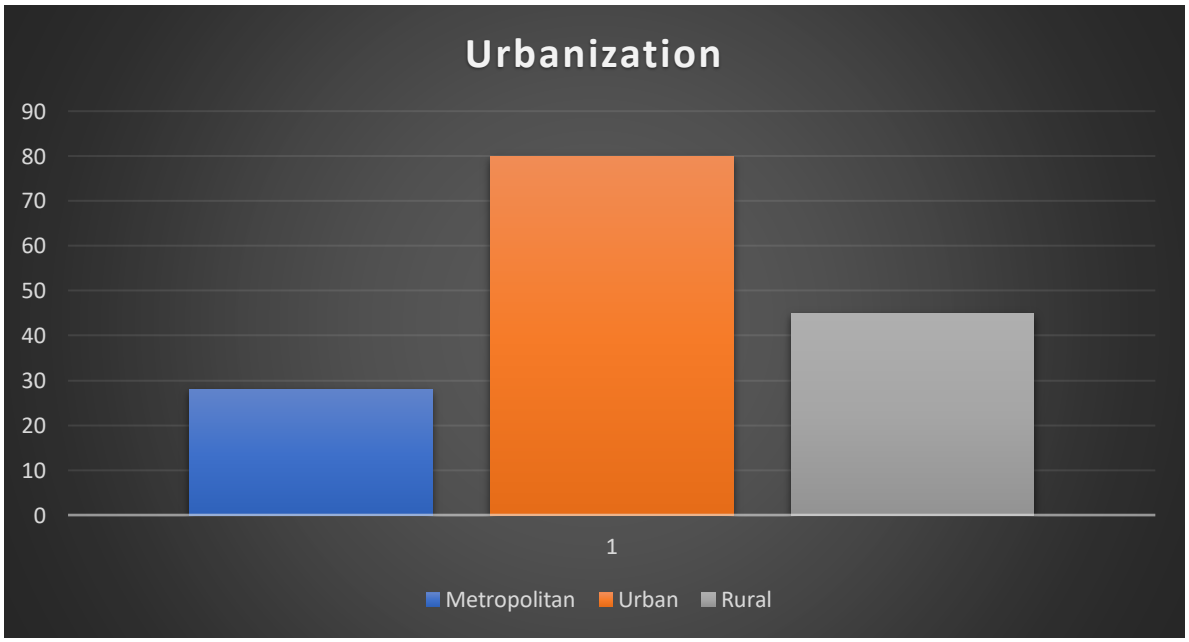


TABLE NO 4.6

TABLE SHOWING OCCUPATION OF THE RESPONDENTS

Occupation		
	Frequency	Percent
Student	75	49
Employed	45	29
Business	13	9
Housemaker	12	8
Professor	8	5
Total	153	100

INTERPRETATION

From the above table indicates that 49% of Respondents are belongs to Student. Next 29% of Respondents are belongs to employed. 9% of respondent are belongs to business. 8% of respondence are belongs to housemaker. 5% of Respondents are belongs to professor.

CHART NO 4.6

CHART SHOWING THE OCCUPATION OF THE RESPONDENTS

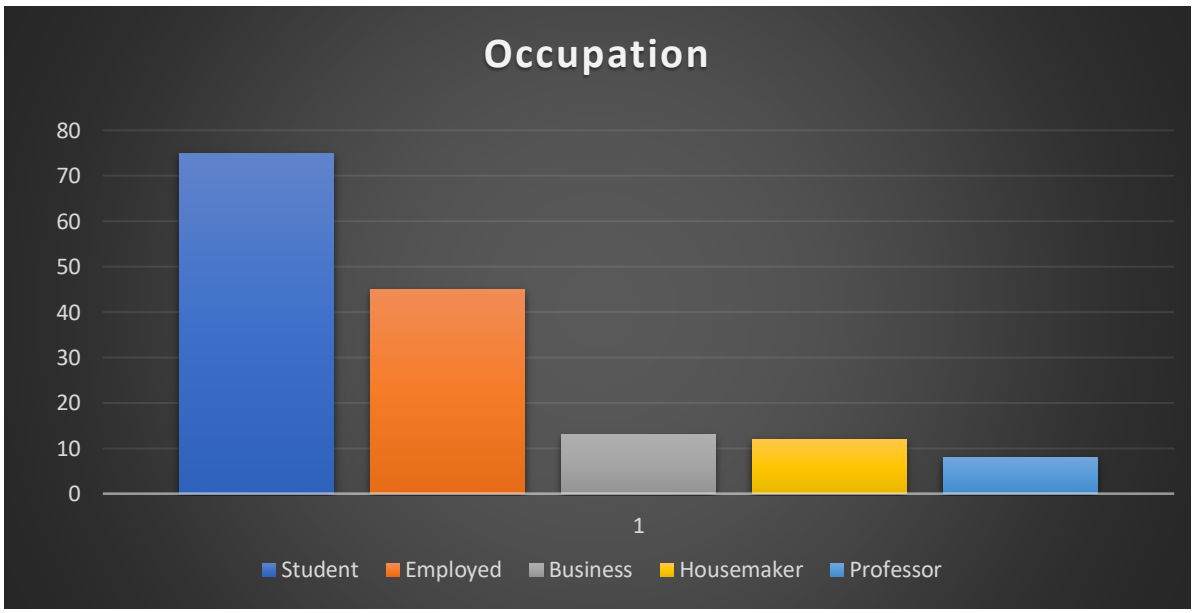


TABLE NO 4.7

TABLE SHOWING THE MONTHLY INCOME OF THE RESPONDENTS

Monthly Income		
	Frequency	Percent
Less than 25,000	54	35
25,000- 50,000	28	18
50,000- 1 Lac	3	2
More than 1 Lac	3	3
Nil	65	42
Total	153	100

INTERPRETATION

Table reveals the classification of Respondents based on their monthly income within the sample size of 153%. 35% of Respondents belong to the Less than 25,000, 18% of the Respondents belong to 25,000-50,000. And 2% of the Respondents belong to 50,000-1 lacs. next 3% of the Respondents belong to more than 1 Lac. Next 42% of the Respondents belong to nil. **The maximum 42% of Respondents belong to Nil.**

CHART NO 4.7

CHART SHOWING THE MONTHLY INCOME OF THE RESPONDENTS

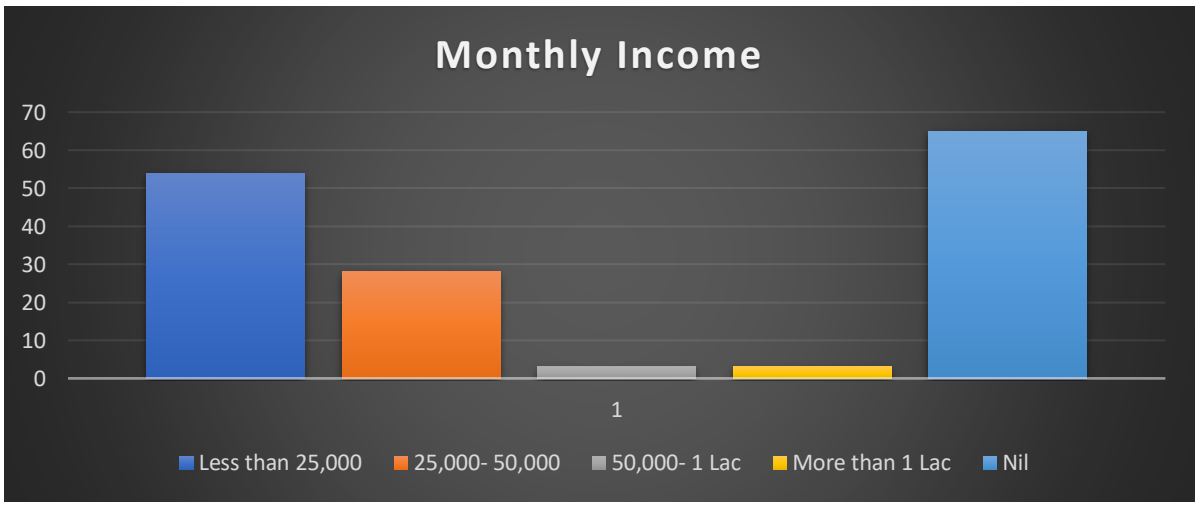


TABLE NO 4.8

TABLE SHOWING THAT HOW FREQUENTLY DO YOU TRAVEL BY INDIAN RAILWAYS

How frequently do you travel by Indian Railways?		
	Frequency	Percent
Daily	5	5
Weekly	8	5
Monthly	34	22
Yearly	28	18
Whenever Required	78	50
Total	153	100

INTERPRETATION

From the above table it is understood that 5% of Respondents belong to daily, 5% of the Respondents belong to the group of weekly. 22% of the Respondents belong to the group of monthly. 18% of them belong to yearly. And 50% of them to whenever required.

Majority of the Respondents belong to 50% of the group whenever required.

CHART NO 4.8

CHART SHOWING THAT HOW FREQUENTLY DO YOU TRAVEL BY INDIAN RAILWAYS

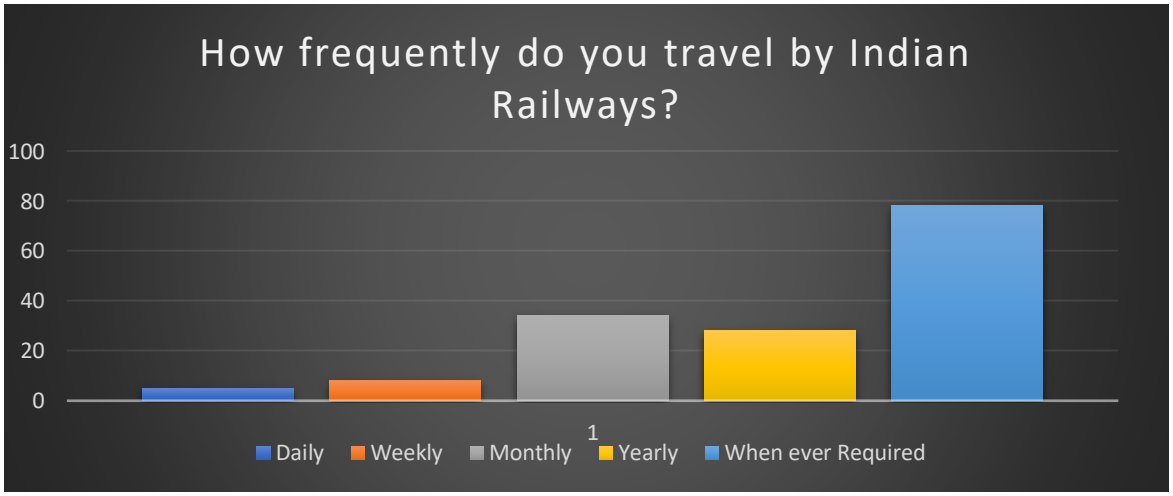


TABLE NO 4.9

TABLE SHOWING WHAT IS THE PURPOSE OF TRAVELLING

What is the purpose of travelling?		
	Frequency	Percent
Vacation	77	51
Personal	50	32
Official/ Business Purpose	8	6
Educational purpose	6	4
Others	11	7
Total	153	100

INTERPRETATION

From the above table it is understood that 51% of them are vacation .32% of them are personal. 6% of them are Official/ Business Purpose .and next 4% of them are educational purpose.7%of the Respondents are others.

Majority of them are 51% belong to others.

CHART NO 4.9

CHART SHOWING WHAT IS THE PURPOSE OF TRAVELLING

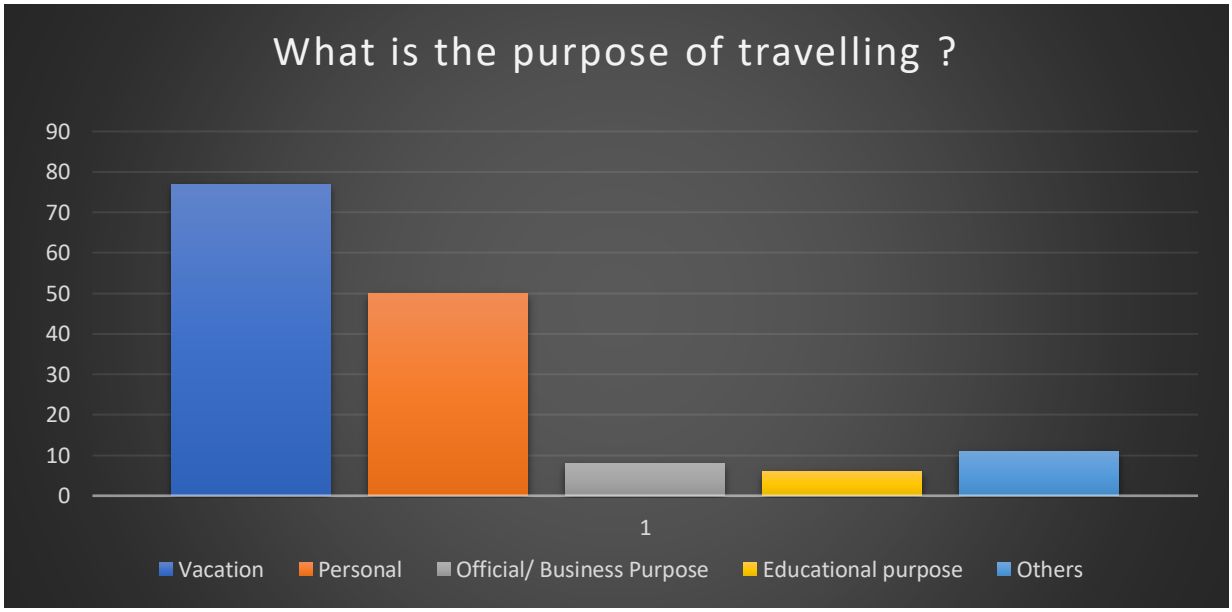


TABLE NO 4.10

TABLE SHOWING WHAT IS THE NATURE OF YOUR TICKET

What is the nature of your Ticket?		
	Frequency	Percent
Seasonal Ticket Holding	33	26
Reserved Ticket Holding	109	75
Unreserved Ticket Holding	11	9
Total	153	100

INTERPRETATION

Table reveals the classification of Respondents based on their Nature of your ticket. 26% of them belong to Seasonal Ticket Holding. 75% of the Respondents belong to Reserved Ticket Holding. 9% of them Unreserved Ticket Holding.

Majority 75% of Respondents are Reserved Ticket Holding.

CHART NO 4.10

CHART SHOWING WHAT IS THE NATURE OF YOUR TICKET

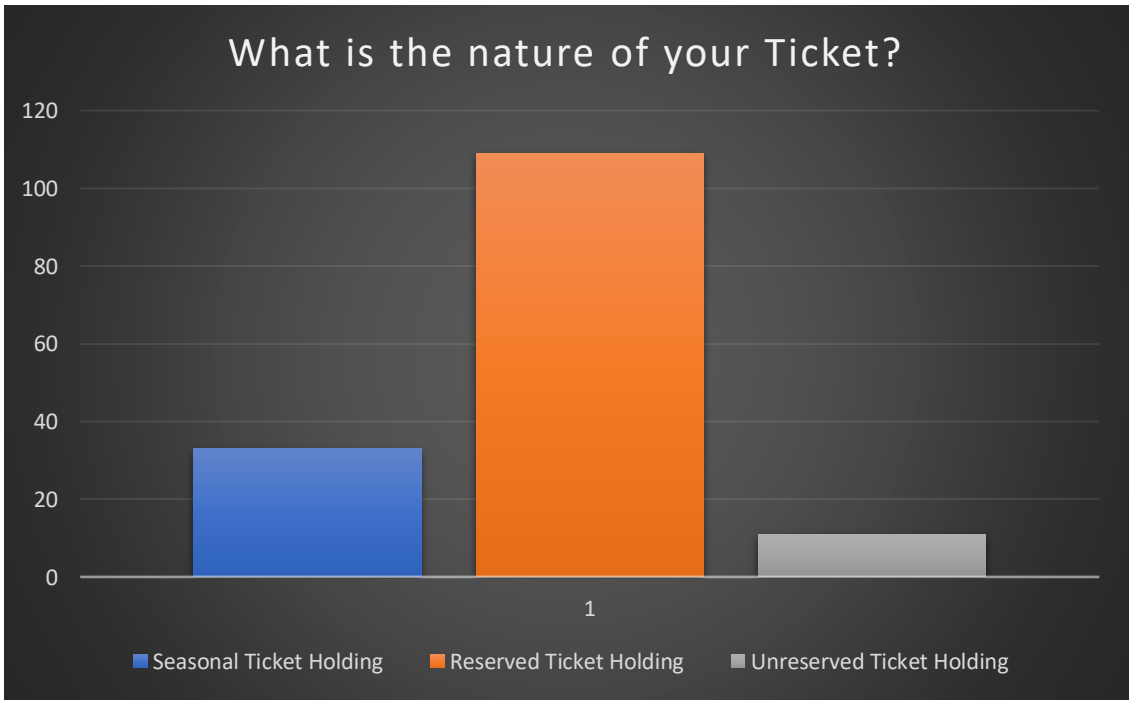


TABLE NO 4.11

TABLE SHOWING WHICH CLASS DO YOU USUALLY TRAVEL IN

Which class do you usually travel in?		
	Frequency	Percent
AC First Class	18	12
AC 2 Tier	32	20
AC 3 Tier	14	10
Sleeper class	64	42
General class	25	16
Total	153	100

INTERPRETATION

From the above table it is clear that 12% of the Respondents are AC First Class. 20% of the Respondents are AC 2 Tier. 10% of them are AC 3 Tier. 42% of the Respondents are Sleeper class. 16% of them are General class.

Majority of the Respondents are from Sleeper class.

CHART NO 4.11

CHART SHOWING WHICH CLASS DO YOU USUALLY TRAVEL IN

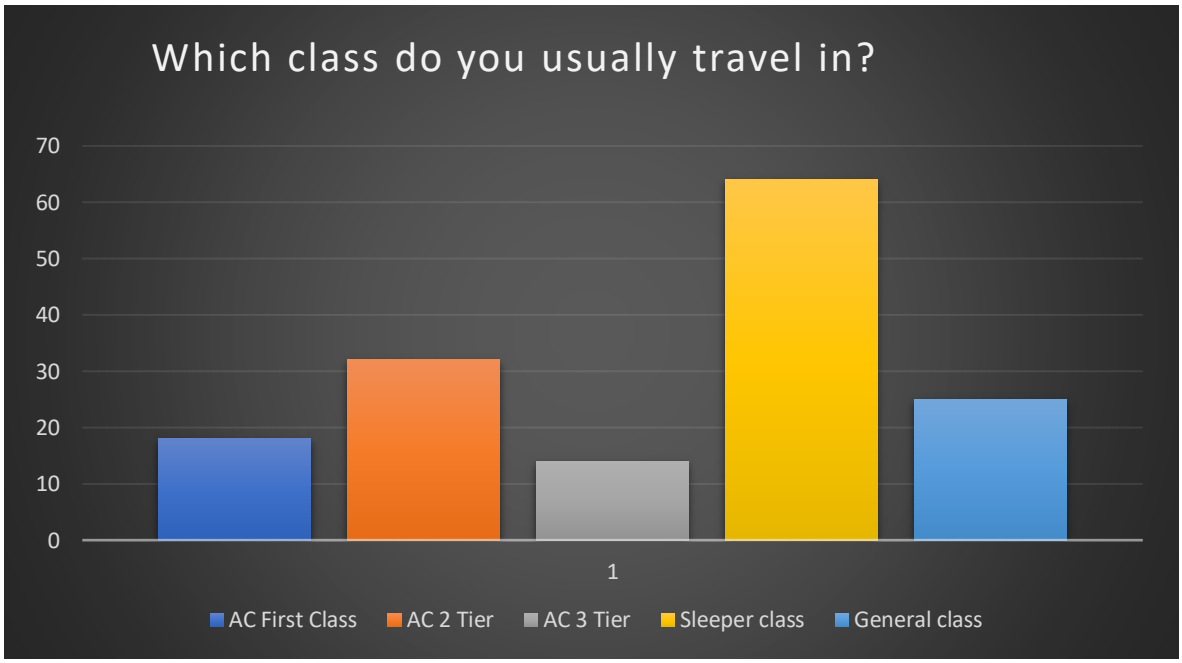


TABLE NO 4.12

TABLE SHOWING HOW DO YOU USUALLY BOOK YOUR RAILWAY TICKETS

How do you usually Book your Railway tickets?		
	Frequency	Percent
At The Railway Station	47	30
IRCTC website	71	47
Through A Travel Agent	1	1
Mobile Ticket Booking	34	22
Total	153	100

INTERPRETATION

From the above table it is inferred that 30% of Respondents book at the railway station. 47% of Respondents use Irctc website. 1% of Respondents are through a travel agent. 22% of Respondents book using mobile ticket booking.

Majority 47% of the Respondents use IRCTC website.

CHART NO 4.12

CHART SHOWING HOW DO YOU USUALLY BOOK YOUR RAILWAY TICKETS

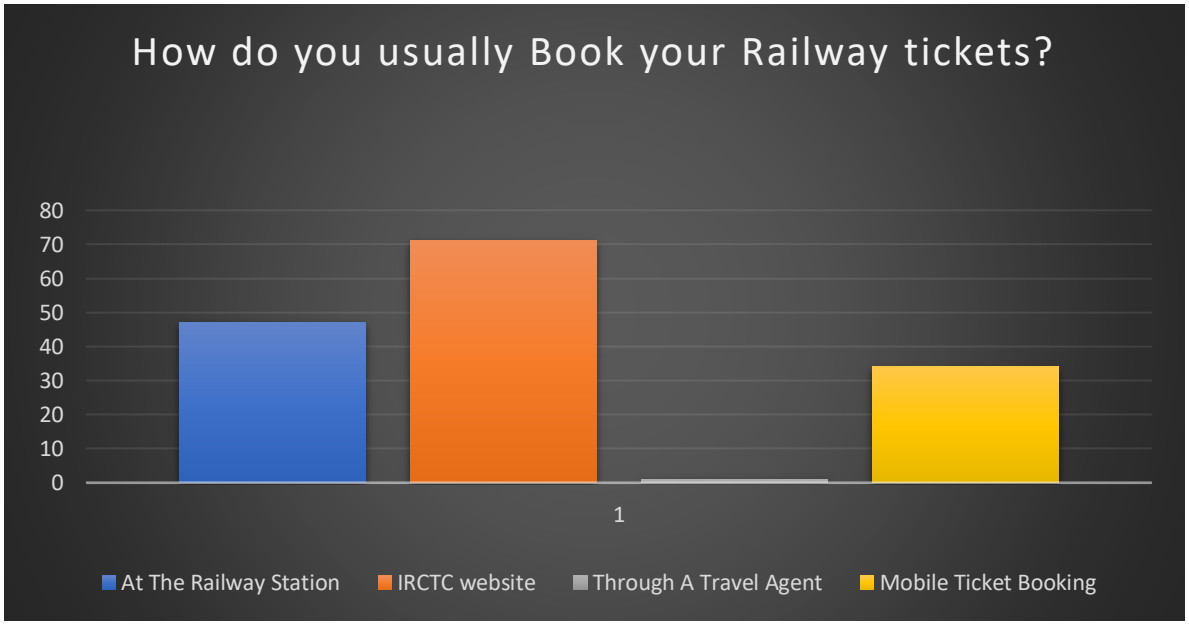


TABLE NO 4.13

TABLE SHOWING HOW SATISFIED ARE YOU WITH TICKET BOOKING PROCESS

How satisfied are you with Ticket Booking process?		
	Frequency	Percent
Highly Satisfied	3	2
Satisfied	93	60
Neutral	49	32
Dissatisfied	2	2
Highly Dissatisfied	6	4
Total	153	100

INTERPRETATION

From the above table it is clear that 2% of Respondents are highly satisfied. 60% of Respondents are satisfied, 32% of Respondents are neutral. 2% of the Respondents are dissatisfied.4% of the highly dissatisfied.

Majority 60% of the Respondents are satisfied.

CHART NO 4.13

CHART SHOWING HOW SATISFIED ARE YOU WITH TICKET BOOKING PROCESS

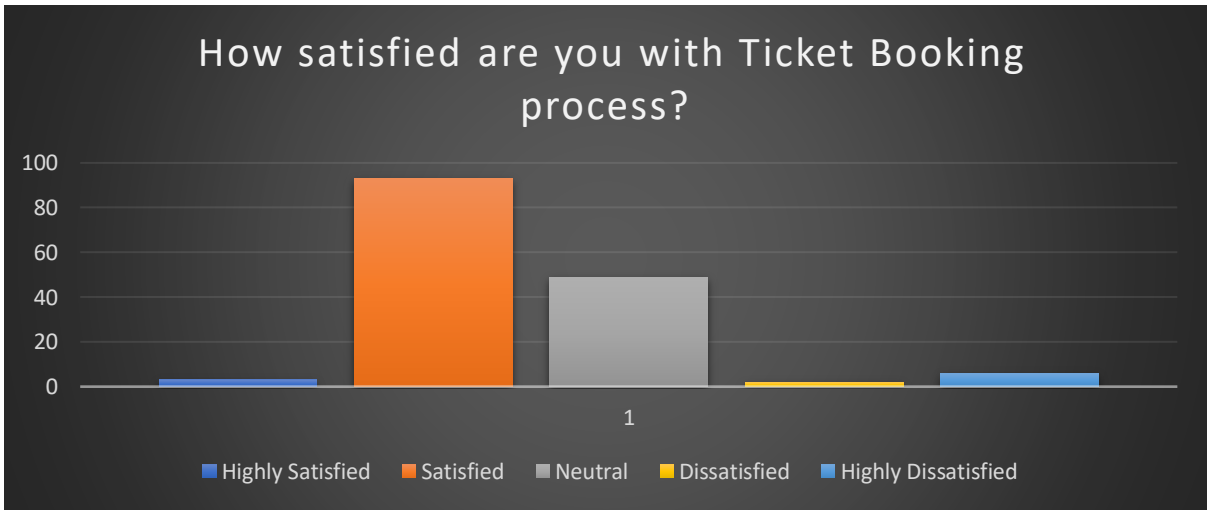


TABLE NO 4.14

TABLE SHOWING HOW SATISFIED ARE YOU WITH THE CLEANLINESS OF INDIAN RAILWAYS

How satisfied are you with the cleanliness of Indian Railway?		
	Frequency	Percent
Very satisfied	9	6
Satisfied	45	30
Neutral	74	47
Dissatisfied	25	17
Total	153	100

INTERPRETATION

From the above table understood that 6% of Respondents feel very satisfied, 30% of the Respondents are satisfied. 47% of the Respondents are neutral. 17% of the Respondents are dissatisfied.

Majority 47% of the Respondents belongs to neutral.

CHART NO 4.14

TABLE SHOWING HOW SATISFIED ARE YOU WITH THE CLEANLINESS OF INDIAN RAILWAYS

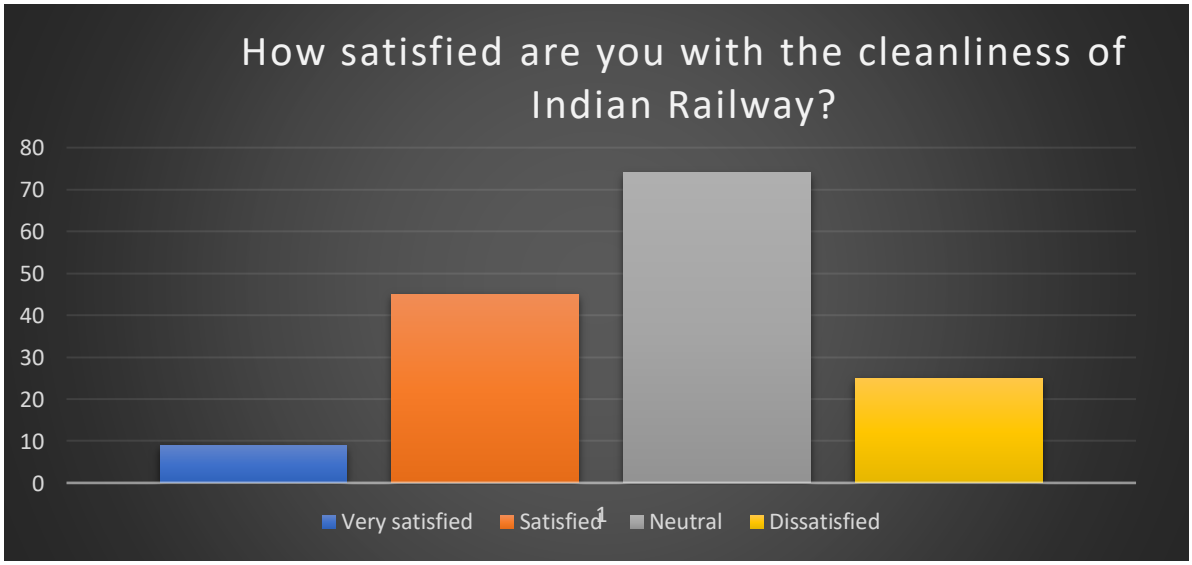


TABLE 4.15

TABLE SHOWING WHAT FACTORS INFLUENCE YOUR CHOICE OF TRAIN FOR TRAVEL

What factors influence your choice of train for travel?		
	Frequency	Percent
Punctuality	22	15
Comfort	91	60
Safety	19	12
Fare	8	5
Availability of seats	13	8
Total	153	100

INTERPRETATION

From the above table indicates that 15% of Respondents choose punctuality. 60% of the Respondents are comfort. 12% of the Respondents are feeling safety, 5% of the Respondents are choosing fare. 8% of the Respondents are facing availability of seats.

Majority 60% of the Respondents are facing comfort.

CHART NO 4.15

TABLE SHOWING WHAT FACTORS INFLUENCE YOUR CHOICE OF TRAIN FOR TRAVEL

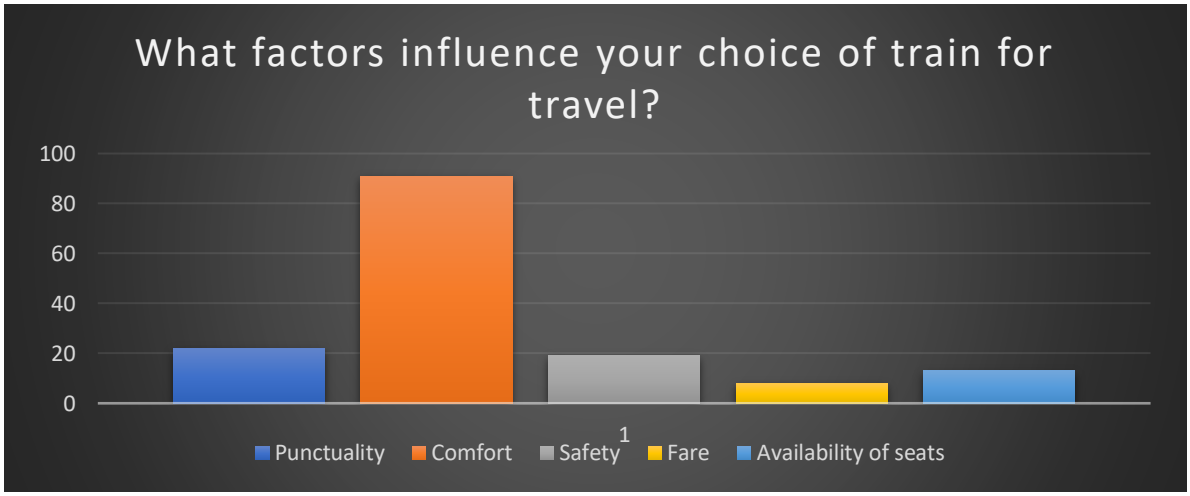


TABLE NO 4.16

TABLE SHOWING THAT HOW WOULD YOU RATE THE QUALITY OF FOOD PROVIDED IN INDIAN RAILWAYS

How would you rate the quality of food provided on Indian Railways?		
	Frequency	Percent
Excellent	3	2
Good	37	25
Average	86	57
Poor	22	13
Very poor	5	3
Total	153	100

INTERPRETATION

Table reveals the classification of Respondents based on the quality of food provided on Indian Railways within the sample size of 153% of Respondents strongly agree that the quality of food is excellent is 2%. 25% of the Respondents agree it as good. 57% of them agree it as average. 13% of the Respondents are poor. 3% of them are very poor.

Majority 57% of Respondents agree it as Average.

CHART NO 4.16

CHART SHOWING THAT HOW WOULD YOU RATE THE QUALITY OF FOOD PROVIDED IN INDIAN RAILWAYS

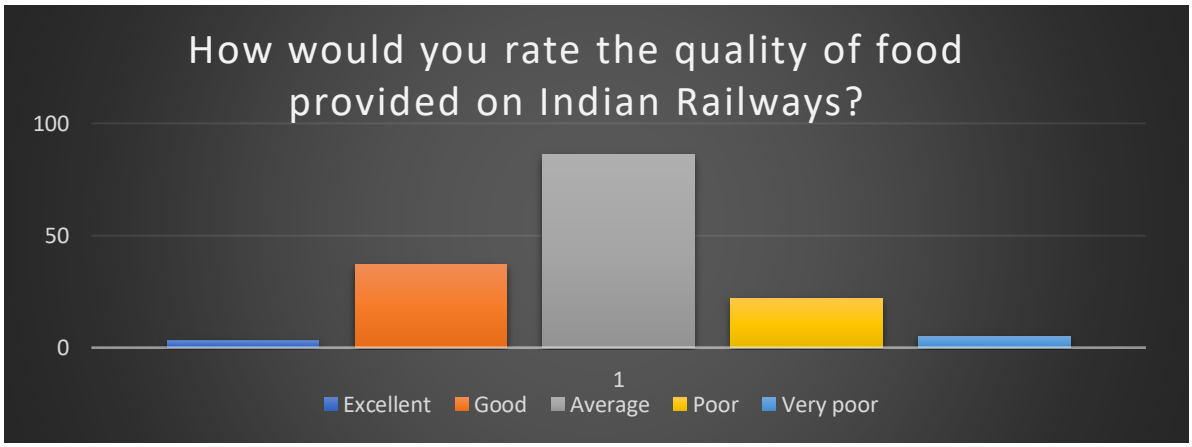


TABLE NO 4.17

TABLE SHOWING AVAILABLITY OF POWER

Availability of power		
	Frequency	Percent
Excellent	21	14
Good	84	55
Neutral	48	31
Total	153	100

INTERPRETATION

From the above table understood 14% of Respondents say it as excellent. 55% of the Respondents are claiming it as good. And 31% of the Respondents are neutral.

Majority 55% of Respondents are under the category of good.

CHART NO 4.17

CHART SHOWING AVAILABLITY OF POWER

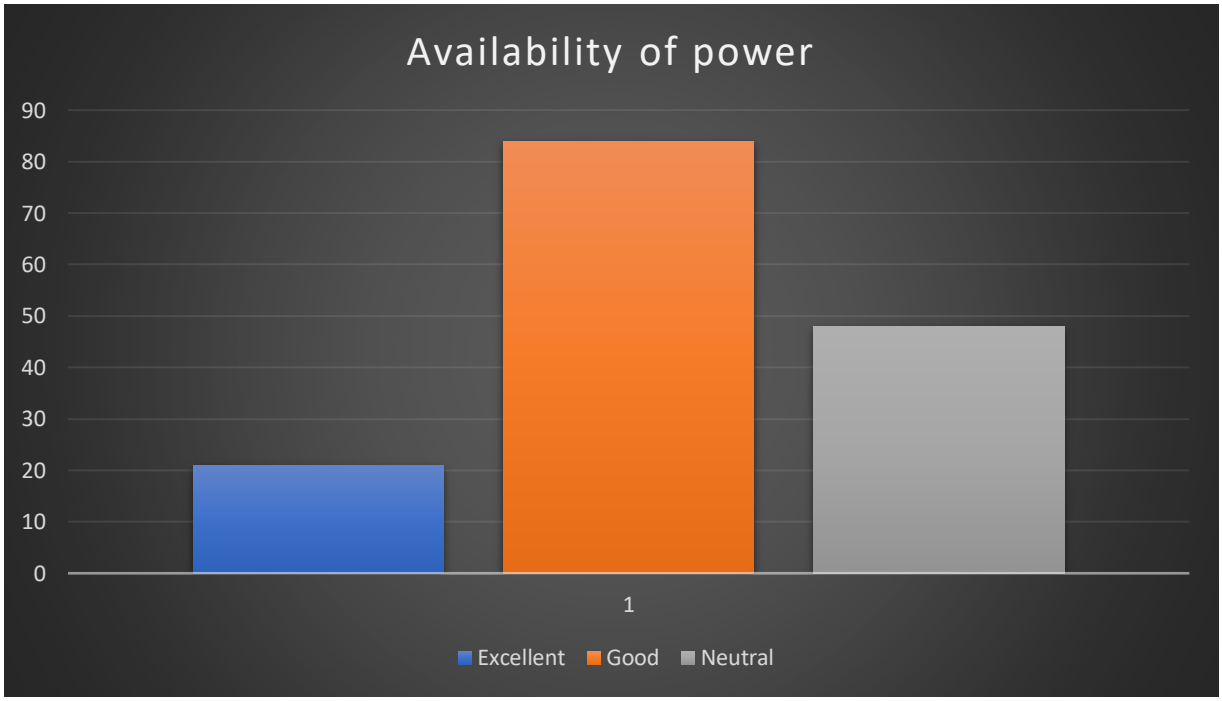


TABLE NO 4.18

TABLE SHOWING ABOUT SITTING ARRANGEMENTS

Sitting Arrangements		
	Frequency	Percent
Excellent	13	9
Good	79	51
Neutral	61	40
Total	153	100

INTERPRETATION

From the above table it is clear that 9% of the Respondents are excellent. 51% of them are good. 40% of the Respondents are neutral.

Majority 51%of the Respondents are under the category of good.

CHART NO 4.18

CHART SHOWING ABOUT SITTING ARRANGEMENTS

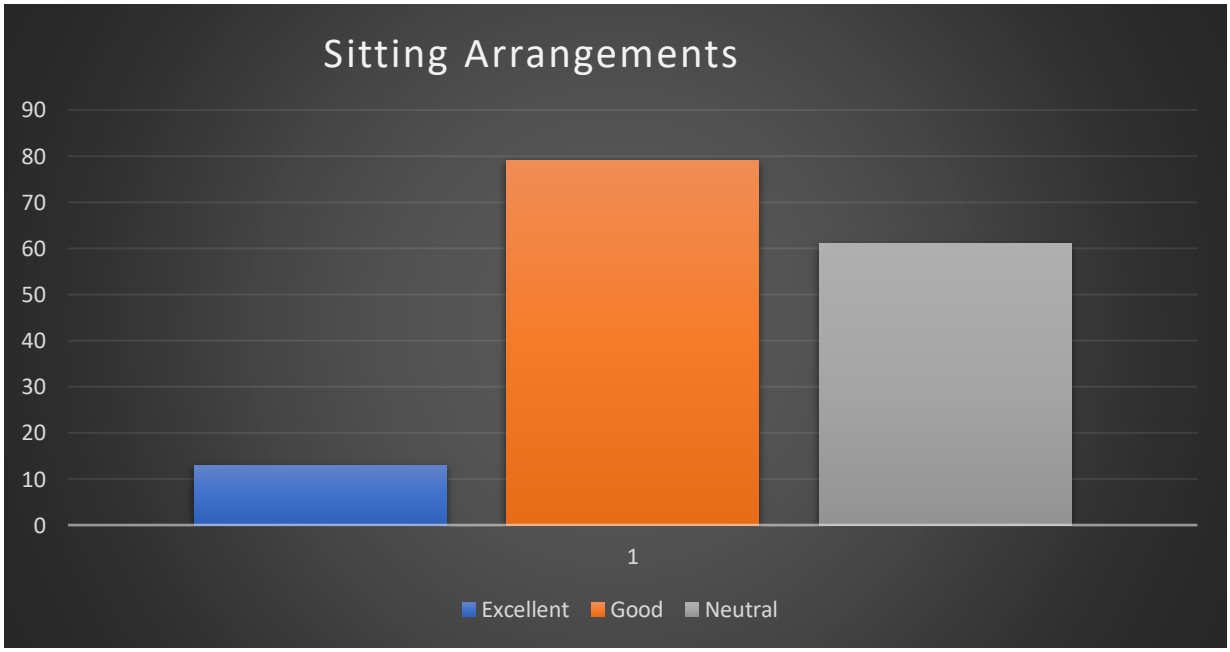


TABLE NO 4.19

TABLE SHOWING ABOUT VENTILATION FACILITIES

Ventilation Facilities		
	Frequency	Percent
Excellent	15	10
Good	64	41
Neutral	70	45
Below Average	4	4
Total	153	100

INTERPRETATION

From the above table it is clear that 10 % of the Respondents are excellent. 41% of them are good. 45% of the Respondents are neutral. 4% of the Respondents are below average.

Majority of the Respondents are 45% neutral.

CHART NO 4.19

CHART SHOWING ABOUT VENTILATION FACILITIES

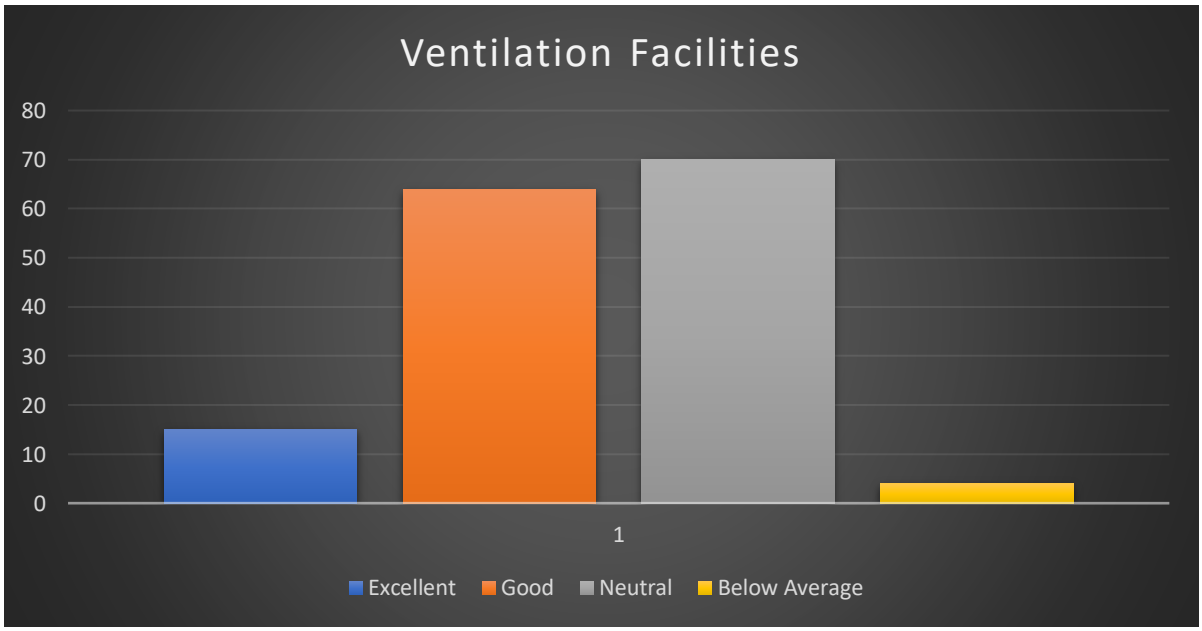


TABLE NO 4.20

TABLE SHOWING ABOUT SANITATION FACILITIES

Sanitation facilities		
	Frequency	Percent
Excellent	10	7
Good	57	40
Neutral	76	50
Below Average	10	7
Total	153	100

INTERPRETATION

From the above table it is clear that 7 % of the Respondents are excellent. 40% of them are good. 50 % of the Respondents are neutral. 7 % of the Respondents are below average. Majority 51%of the Respondents are under the category of good.

Majority of the Respondents are 50% neutral.

CHART NO 4.20

CHART SHOWING ABOUT SANITATION FACILITIES

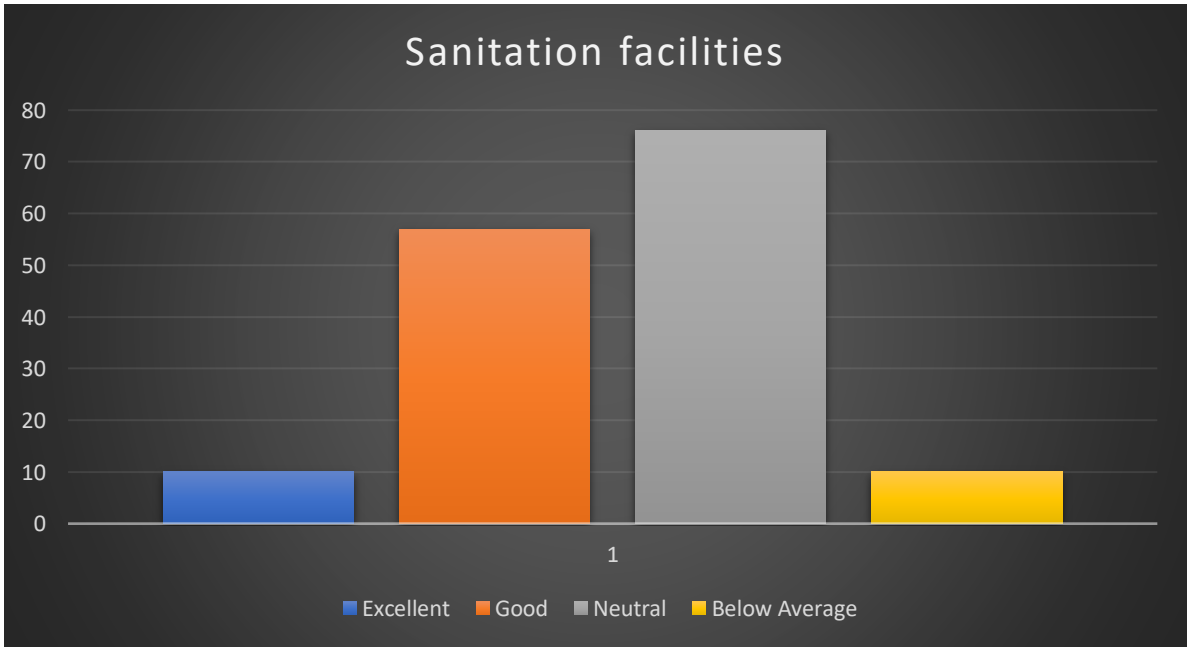


TABLE NO 4.21

TABLE SHOWING ABOUT CATERING FACILITIES

Catering facilities		
	Frequency	Percent
Excellent	7	5
Good	54	36
Neutral	83	55
Below Average	9	4
Total	153	100

INTERPRETATION

From the above table it is clear that 5 % of the Respondents are excellent. 36% of them are good. 55 % of the Respondents are neutral. 4 % of the Respondents are below average.

Majority 55%of the Respondents are under the category of good.

CHART NO 4.21

CHART SHOWING ABOUT CATERING FACILITIES

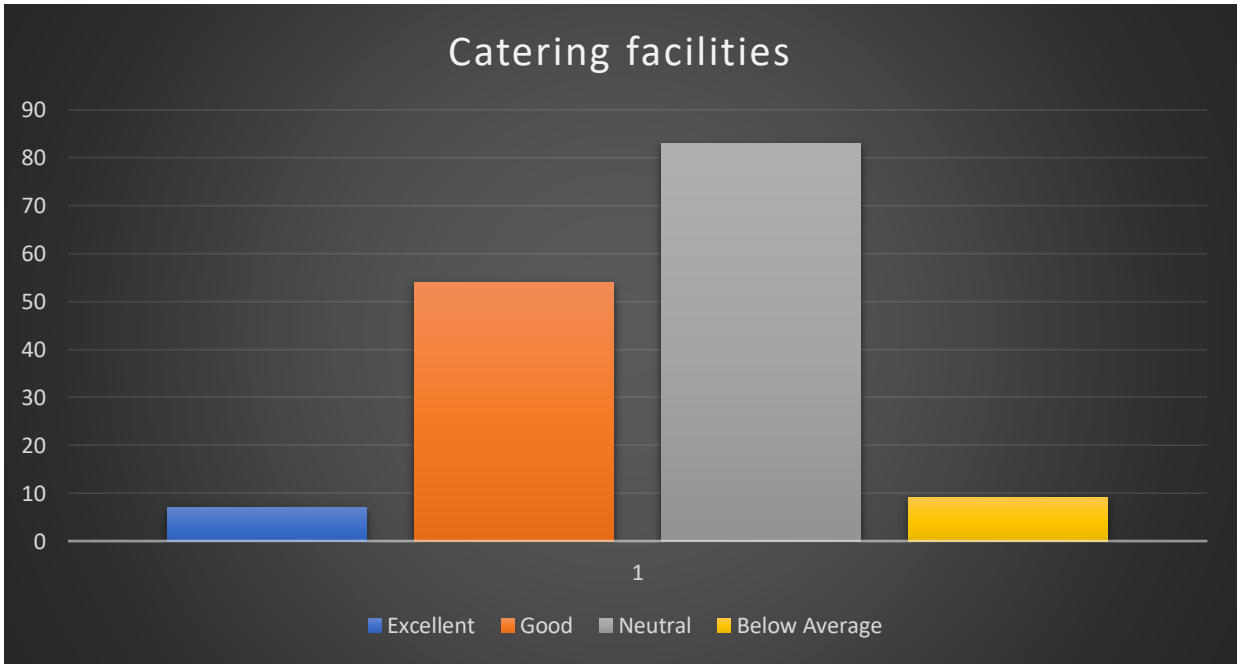


TABLE NO 4.22

TABLE SHOWING ABOUT INFORMATION OF THE PLATFORM

Information of the platform		
	Frequency	Percent
Excellent	23	15
Good	77	50
Neutral	53	35
Total	153	100

INTERPRETATION

From the above table it is clear that 15 % of the Respondents are excellent. 50 % of them are good. 35 % of the Respondents are neutral.

Majority 50%of the Respondents are under the category of good.

CHART NO 4.22

CHART SHOWING ABOUT INFORMATION OF THE PLATFORM

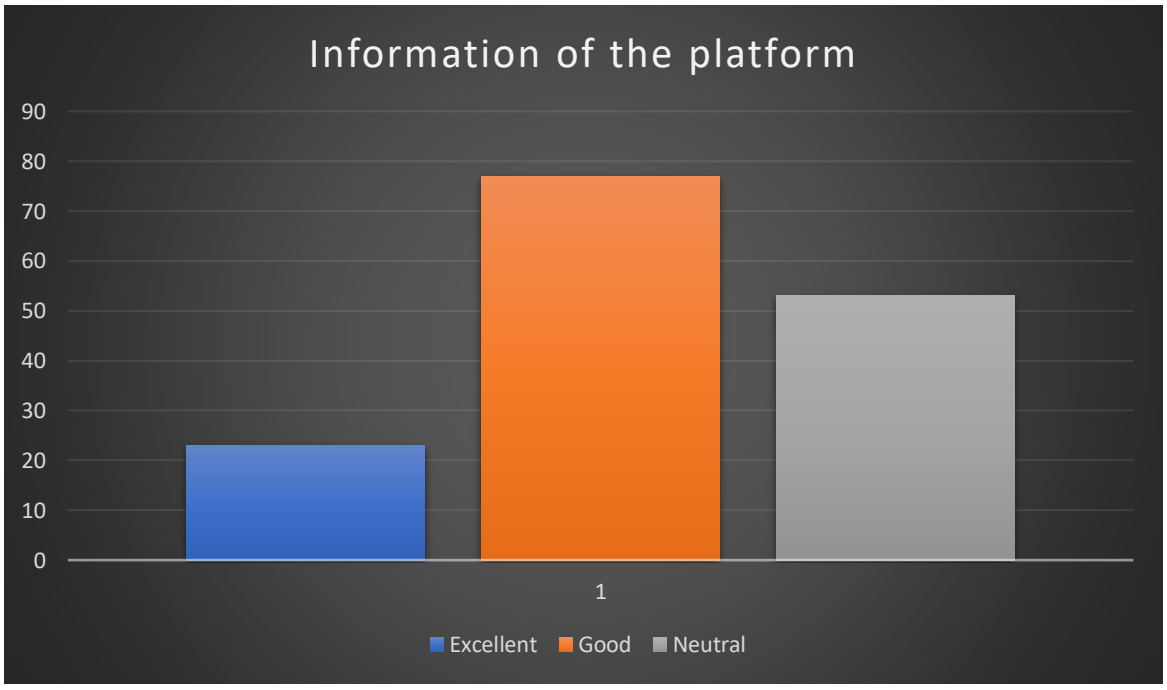


TABLE NO 4.23

TABLE SHOWING ABOUT INFRASTRUCTURE

Infrastructure		
	Frequency	Percent
Excellent	15	10
Good	86	57
Neutral	49	32
Below Average	3	1
Total	153	100

INTERPRETATION

From the above table it is clear that 10% of the Respondents are excellent. 57% of them are good. 32 % of the Respondents are neutral. And 1% of the Respondents are below average.

Majority 57%of the Respondents are under the category of good.

CHART NO 4.23

CHART SHOWING ABOUT INFRASTRUCTURE

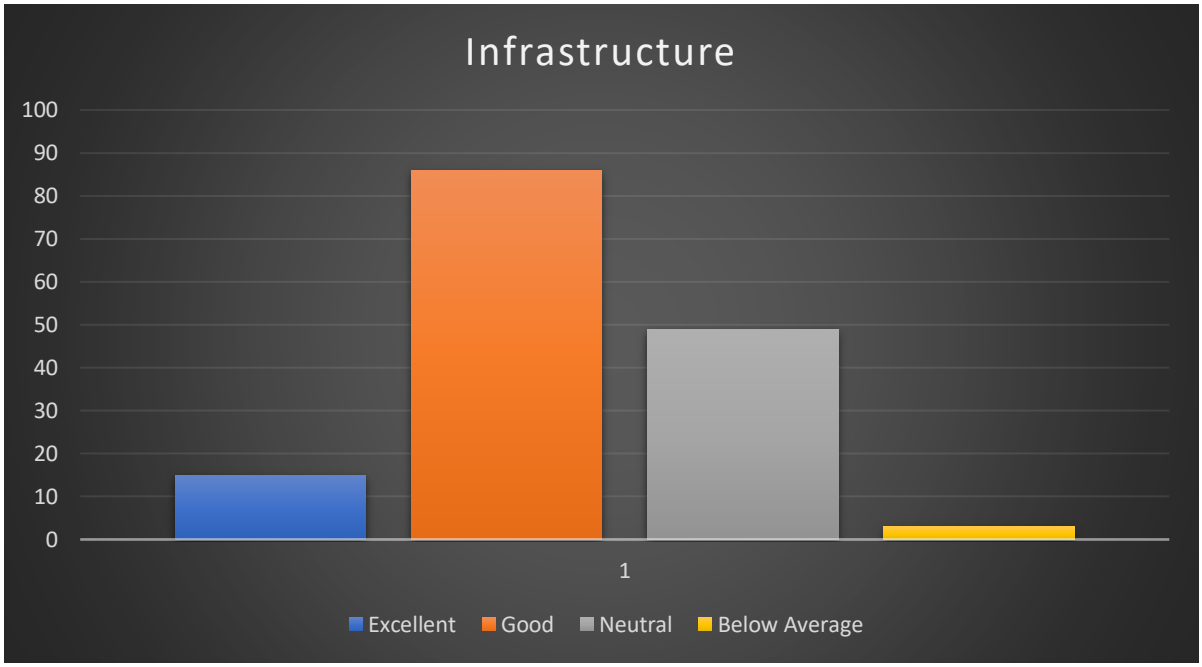


TABLE NO 4.24

TABLE SHOWING ABOUT SERVICES TO ENCHANCE TRAIN JOURNEY EXPERIENCE

Which additional services would enhance train journey experience?		
	Frequency	Percent
Bedrolls	40	15
Eateries on platforms	29	19
Clean Drinking water	45	30
Security Personnel	27	18
First Aid facilities	12	8
Total	153	100

INTERPRETATION

From the above table it is clear that 15% of the Respondents are excellent. 57% of them are good. 32 % of the Respondents are neutral. And 1% of the Respondents are below average.

Majority 57%of the Respondents are under the category of good.

CHART NO 4.24

CHART SHOWING ABOUT SERVICES TO ENCHANCE TRAIN JOURNEY EXPERIENCE

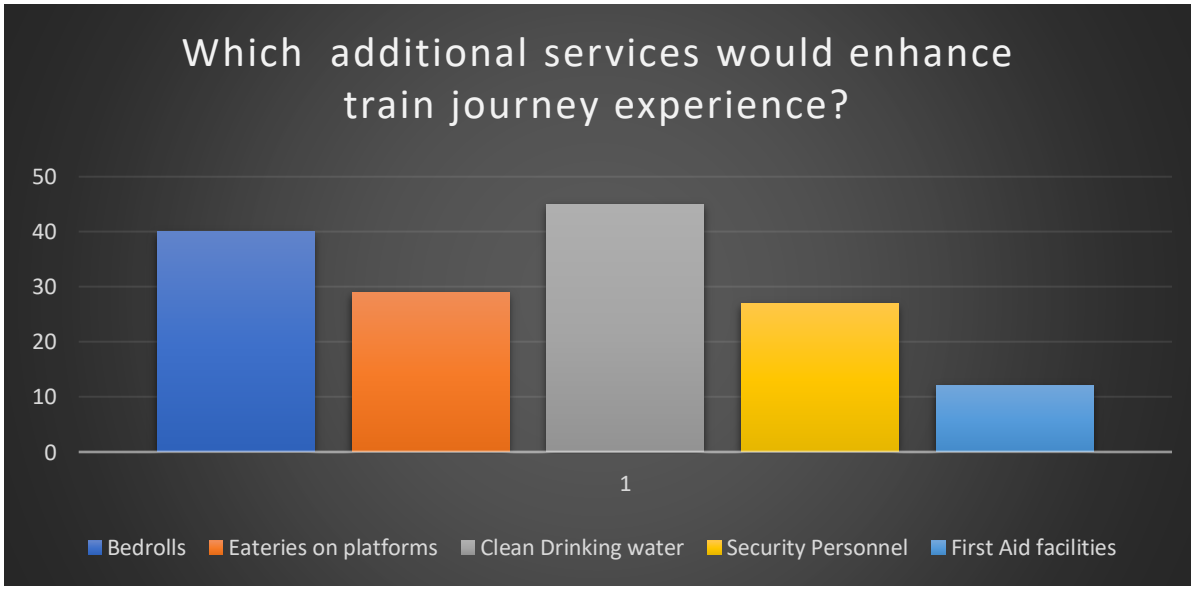


TABLE NO 4.25

TABLE SHOWING THE INFORMATION THAT NEEDS TO BE IMPROVED IN TRAIN SCHEDULES

What information you like to see improved in train schedules?		
	Frequency	Percent
Real- time updates	47	30
Platform Information	30	20
Train Delays	36	24
Cancellation information	21	14
Alternate Train options	19	12
Total	153	100

INTERPRETATION

From the above table it is clear that 30% of the Respondents are Real- time updates. 20% of the Platform Information. 24 % of the Respondents are Train Delays. And 14% of the Respondents are Cancellation information.12% of the Alternate Train options.

Majority 30 %of the Respondents are real -time updates.

CHART NO 4.25

CHART SHOWING THE INFORMATION THAT NEEDS TO BE IMPROVED IN TRAIN SCHEDULES

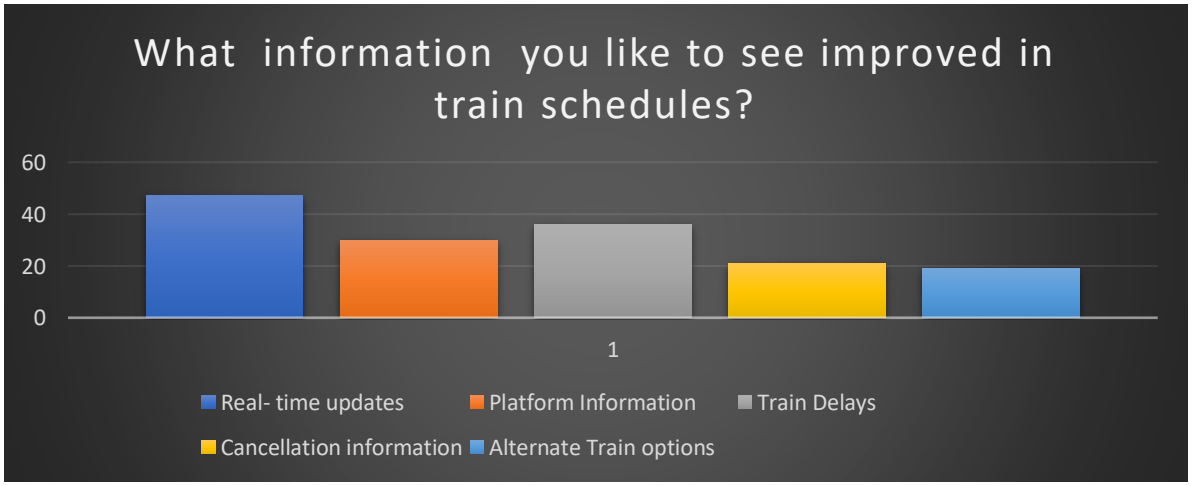


TABLE NO 4.26

TABLE SHOWING THE AVAILABLITY OF DUSTBINS

Availability of Dustbins		
	Frequency	Percent
Excellent	12	6
Good	74	49
Fair	49	35
Poor	18	10
Total	153	100

INTERPRETATION

From the above table it is clear that 6% of the Respondents are excellent. 49% of them are good. 35 % of the Respondents are neutral. And 10% of the Respondents are below average.

Majority 49%of the Respondents are under the category of good.

CHART NO 4.26

CHART SHOWING AVAILABLITY OF DUSTBINS

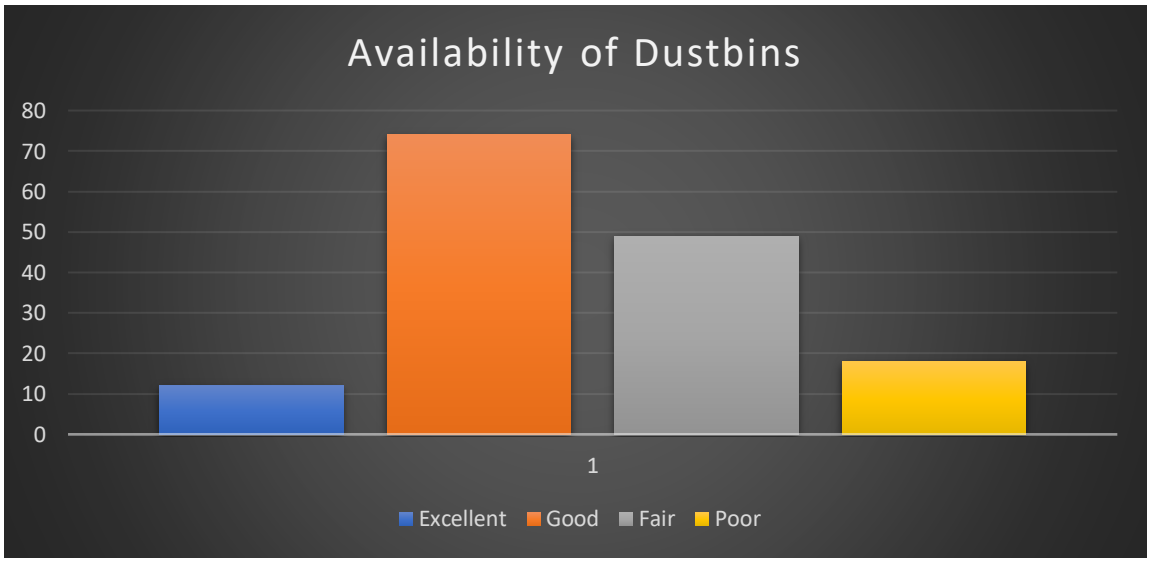


TABLE NO 4.27

TABLE SHOWING THE USE OF TOILET FACILITIES

Toilet Facilities		
	Frequency	Percent
Excellent	6	4
Good	62	41
Fair	51	33
Poor	34	22
Total	153	100

INTERPRETATION

From the above table it is clear that 4% of the Respondents are excellent. 41% of them are good. 33 % of the Respondents are neutral. And 22% of the Respondents are below average.

Majority 41%of the Respondents are under the category of good.

CHART NO 4.27

CHART SHOWING THE USE OF TOILET FACILITIES

TABLE NO 4.28

TABLE SHOWING THE USE OF WATER FACILITIES

Water Facilities		
	Frequency	Percent
Excellent	16	10
Good	75	50
Neutral	43	30
Poor	19	10
Total	153	100

INTERPRETATION

From the above table it is clear that 10% of the Respondents are excellent. 50% of them are good. 30 % of the Respondents are neutral. And 10% of the Respondents are below average.

Majority 50%of the Respondents are under the category of good.

CHART NO 4.28

CHART SHOWING THE USE OF WATER FACILITIES

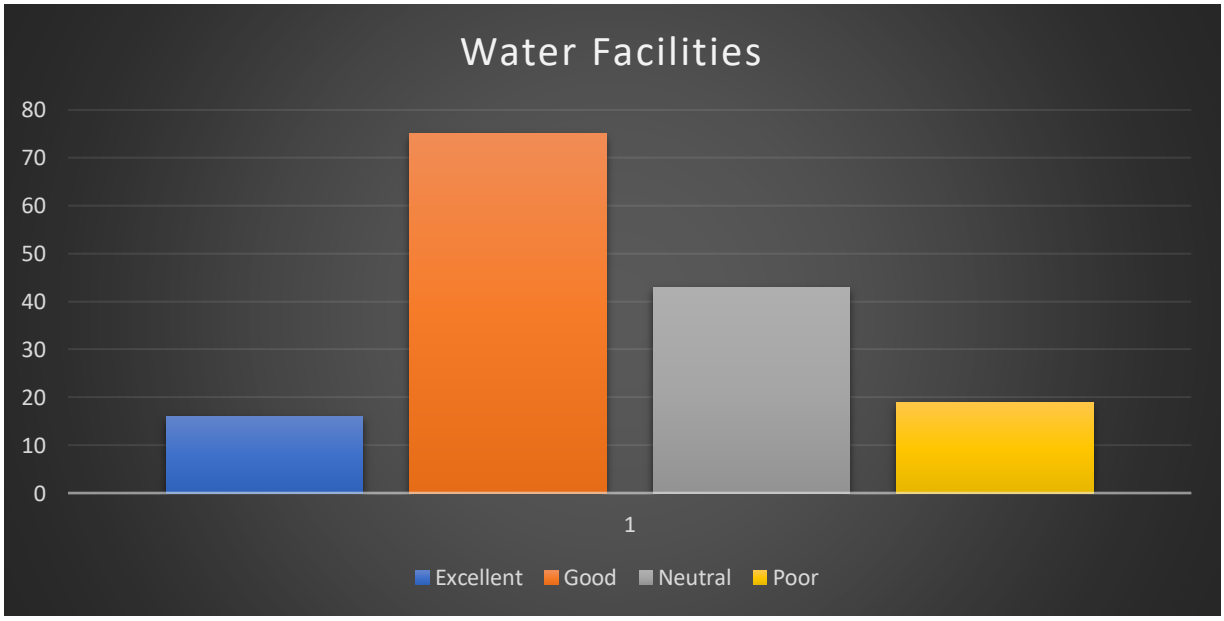


TABLE NO 4.29

TABLE SHOWING CONDITION OF FLOORING SURFACE ON PLATFORMS

Condition of flooring surface on platforms		
	Frequency	Percent
Excellent	9	5
Good	94	62
Neutral	33	21
Poor	17	12
Total	153	100

INTERPRETATION

From the above table it is clear that 5% of the Respondents are excellent. 62% of them are good. 21 % of the Respondents are neutral. And 12% of the Respondents are below average.

Majority 62%of the Respondents are under the category of good.

CHART NO 4.29

CHART SHOWING CONDITION OF FLOORING SURFACE ON PLATFORMS

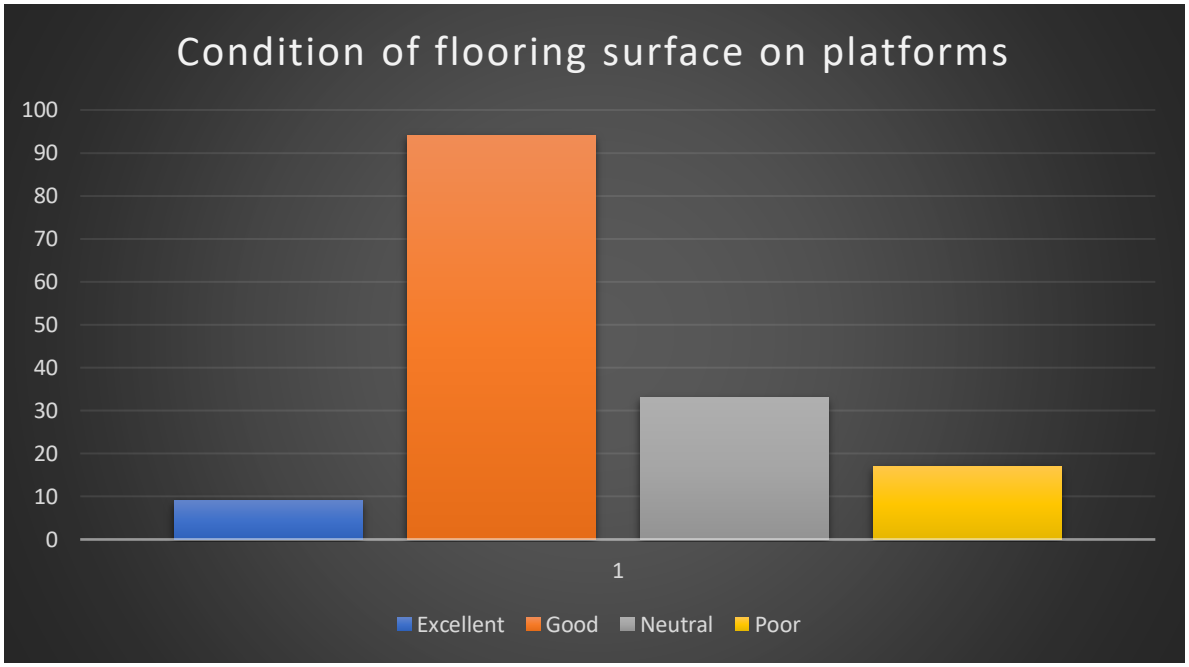


TABLE NO 4.30

TABLE SHOWING PLATFORMS SHELTERS AND PIPELINES

Platform shelters and pipelines		
	Frequency	Percent
Excellent	9	6
Good	86	57
Fair	44	30
Poor	14	7
Total	153	100

INTERPRETATION

From the above table it is clear that 6% of the Respondents are excellent. 57% of them are good. 30 % of the Respondents are neutral. And 7% of the Respondents are below average.

Majority 57%of the Respondents are under the category of good.

CHART NO 4.30

CHART SHOWING PLATFORMS SHELTERS AND PIPELINES

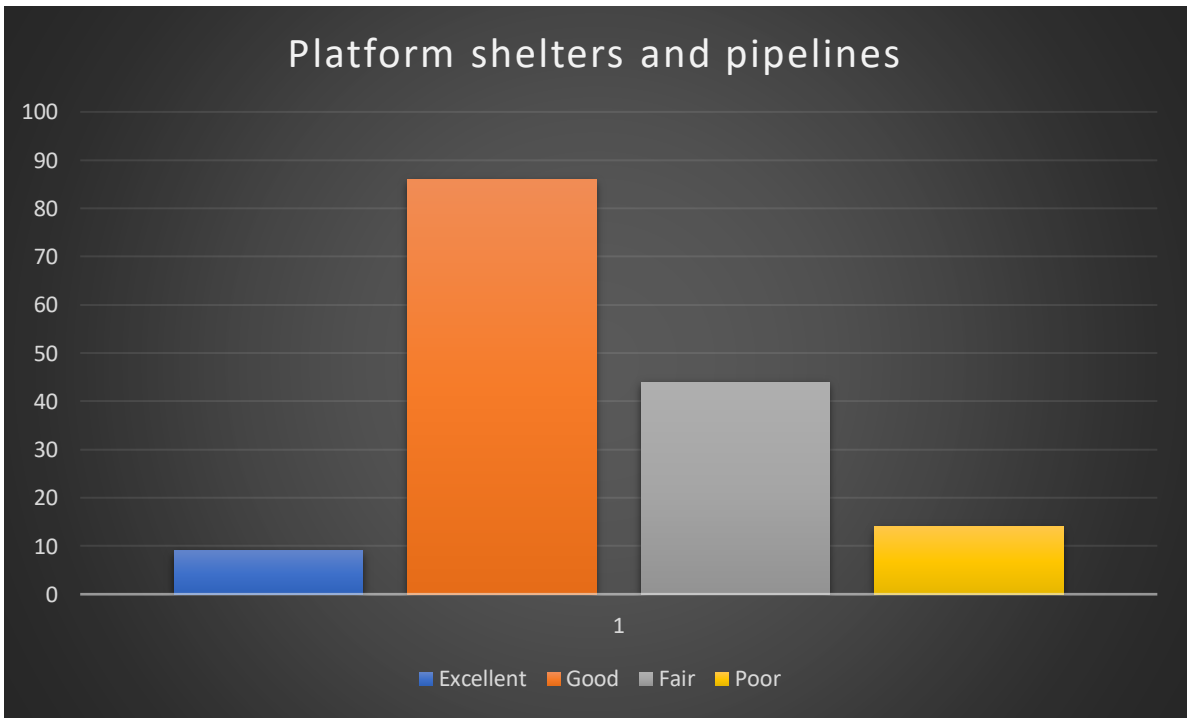


TABLE NO 4.31

TABLE SHOWING PROPER DRESSING OF ELECTRIC AND TELECOM CABLES

Proper Dressing of Electric and Telecom cables		
	Frequency	Percent
Excellent	11	4
Good	82	54
Fair	55	36
Poor	5	4
Total	153	100

INTERPRETATION

From the above table it is clear that 4% of the Respondents are excellent. 54% of them are good. 36 % of the Respondents are neutral. And 4% of the Respondents are below average.

Majority 54%of the Respondents are under the category of good.

CHART NO 4.31

CHART SHOWING PROPER DRESSING OF ELECTRIC AND TELECOM CABLES

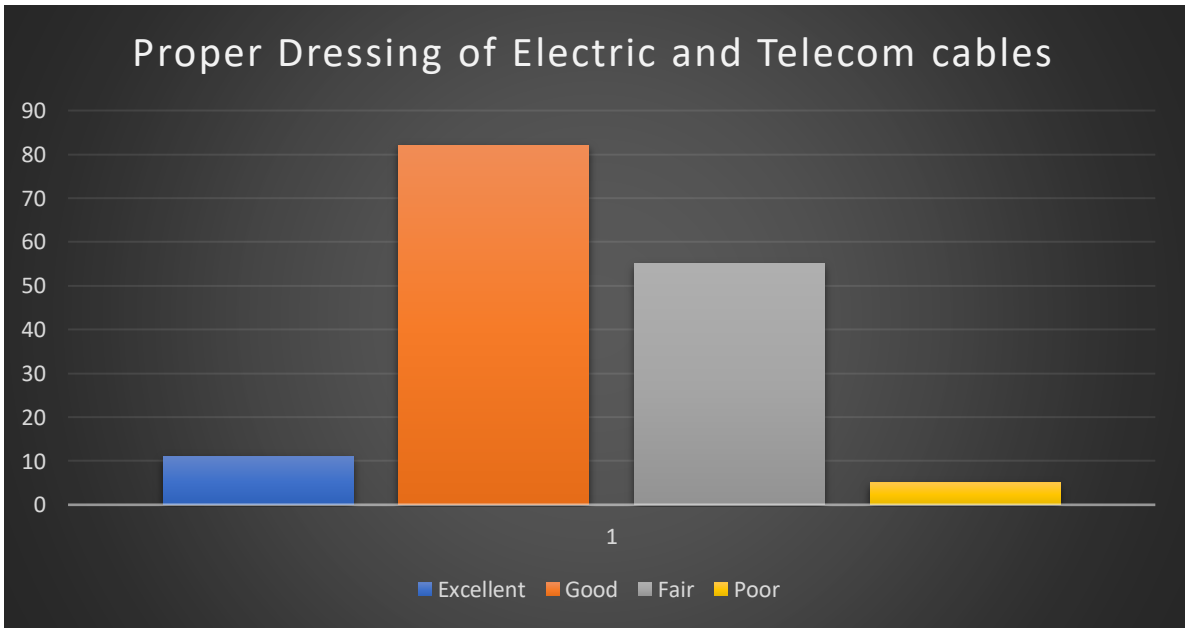


TABLE NO 4.32

TABLE SHOWING CONTROL OF FLIES/ MOSQUITOS/RATS

Control of flies/Mosquitos/ Rats		
	Frequency	Percent
Excellent	6	4
Good	69	46
Fair	43	30
Poor	35	20
Total	153	100

INTERPRETATION

From the above table it is clear that 4% of the Respondents are excellent. 46% of them are good. 30% of the Respondents are neutral. And 20% of the Respondents are below average.

Majority 46%of the Respondents are under the category of good.

CHART NO 4.32

CHART SHOWING CONTROL OF FLIES/ MOSQUITOS/RATS

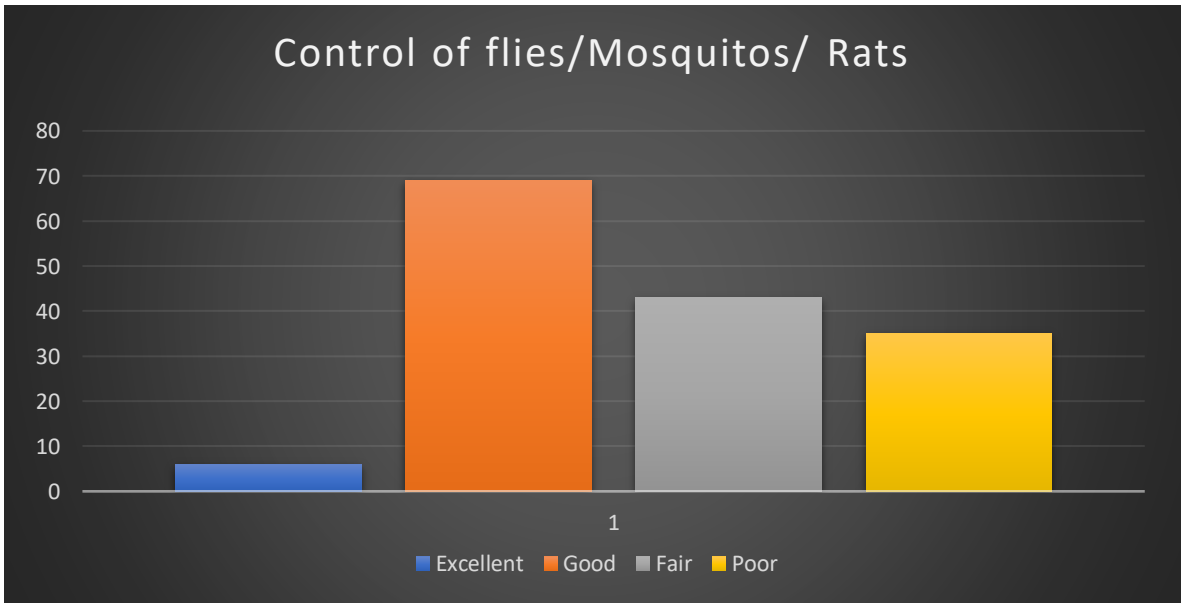


TABLE NO 4.33

TABLE SHOWING THE FORM OF TICKET PASSENGERS CARRY IN TRAIN

What form of ticket do you generally carry in the train ?		
	Frequency	Percent
Printed E- Ticket	38	25
Mobile Ticket	115	75
Total	153	100

INTERPRETATION

From the above table it is clear that 25% of the Respondents use Printed E- Ticket. 75% of the Respondents carry Mobile Ticket.

Majority 75% of them carry Mobile Ticket.

CHART NO 4.33

CHART SHOWING THE FORM OF TICKET PASSENGERS CARRY IN TRAIN

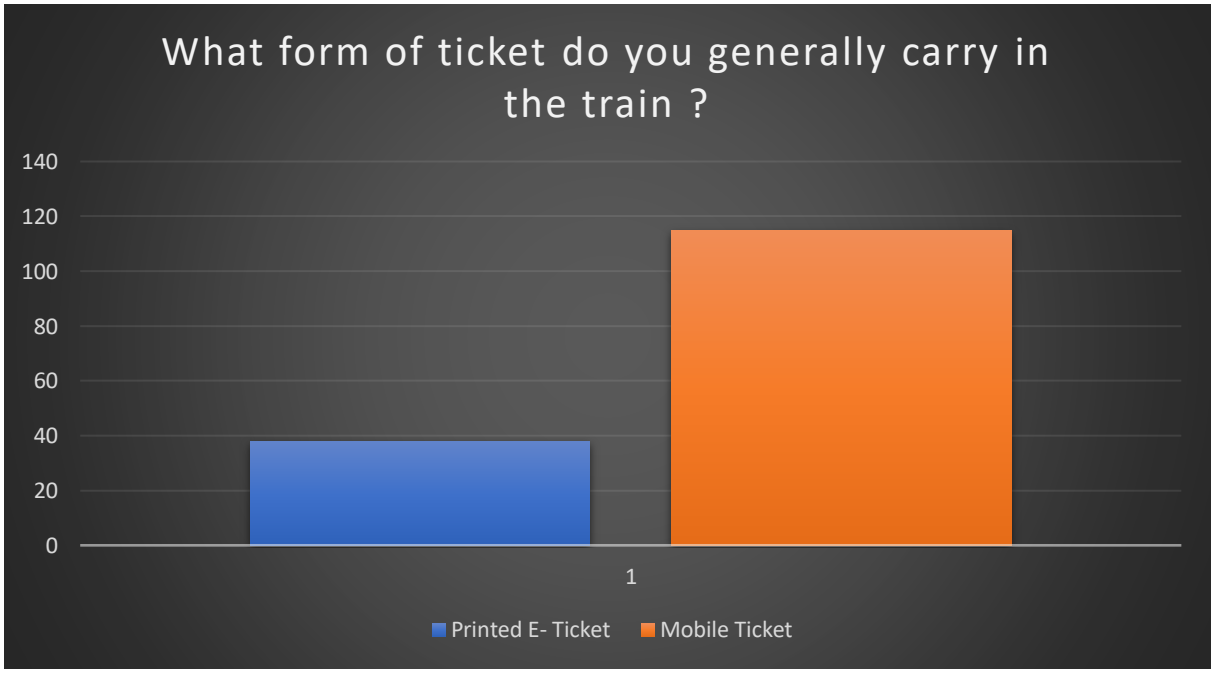


TABLE NO 4.34

TABLE SHOWING THE DIFFICULTIES FACED IN E-TICKETING

What are the difficulties faced by you in E- Ticketing?		
	Frequency	Percent
Service Charges	52	34
Automatic cancellation if waitlisted tickets	56	37
Change in name of the stations	8	5
Connectivity problems	37	24
Total	153	100

INTERPRETATION

From the above table it is clear that 35% of the respondent's face Service Charges. 37% of the Respondents face Automatic cancellation if waitlisted tickets .5% of the passengers' face Change in name of the stations. 24% of the passengers face Connectivity problems.

Majority 37% of them face Automatic cancellation if waitlisted tickets.

CHART NO 4.34

CHART SHOWING THE DIFFICULTIES FACED IN E-TICKETING

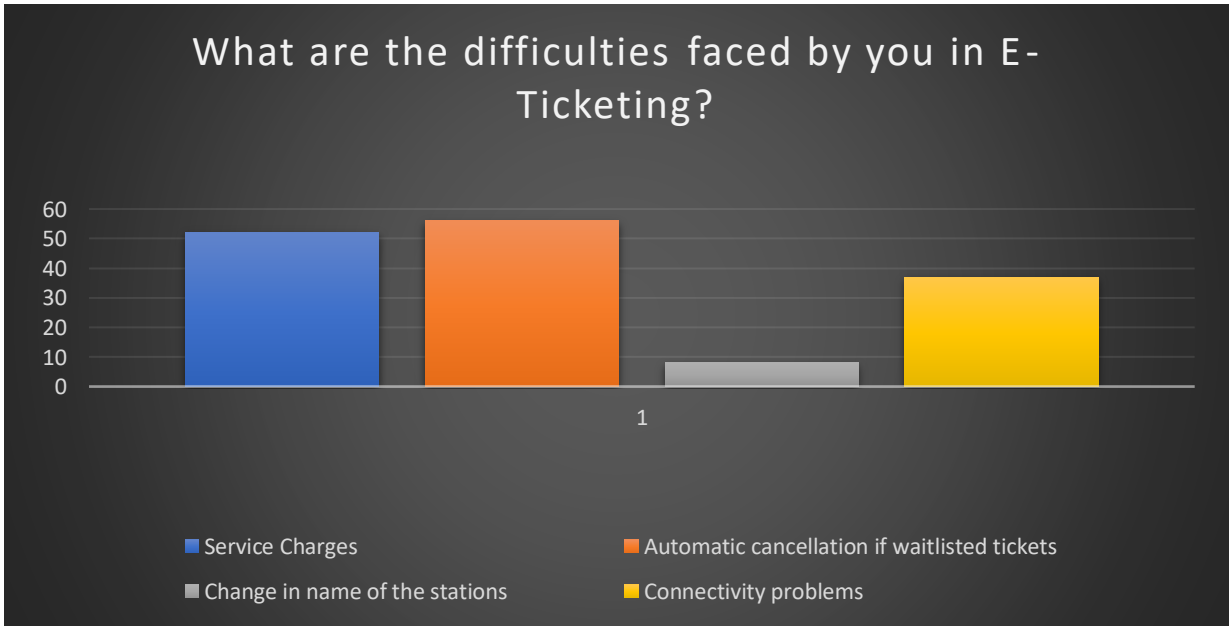


TABLE NO 4.35

TABLE SHOWING THE OFFENCES DO YOU FACE DURING TRAIN JOURNEYS

Which type of offences do you face during train journeys?		
	Frequency	Percent
Public nuisance	66	36
Seat cornering	38	34
Theft	21	13
Property snatching	4	2
No complaints faced	24	15
Total	153	100

INTERPRETATION

From the above table it is clear that 35% of the respondent face Public nuisance. 34% of them face Seat cornering. 13% of them face theft. 2% of the passengers face Property snatching. 15% of the passengers face no complaints.

Majority 36% of them face Public nuisance.

CHART NO 4.35

CHART SHOWING THE OFFENCES DO YOU FACE DURING TRAIN JOURNEYS

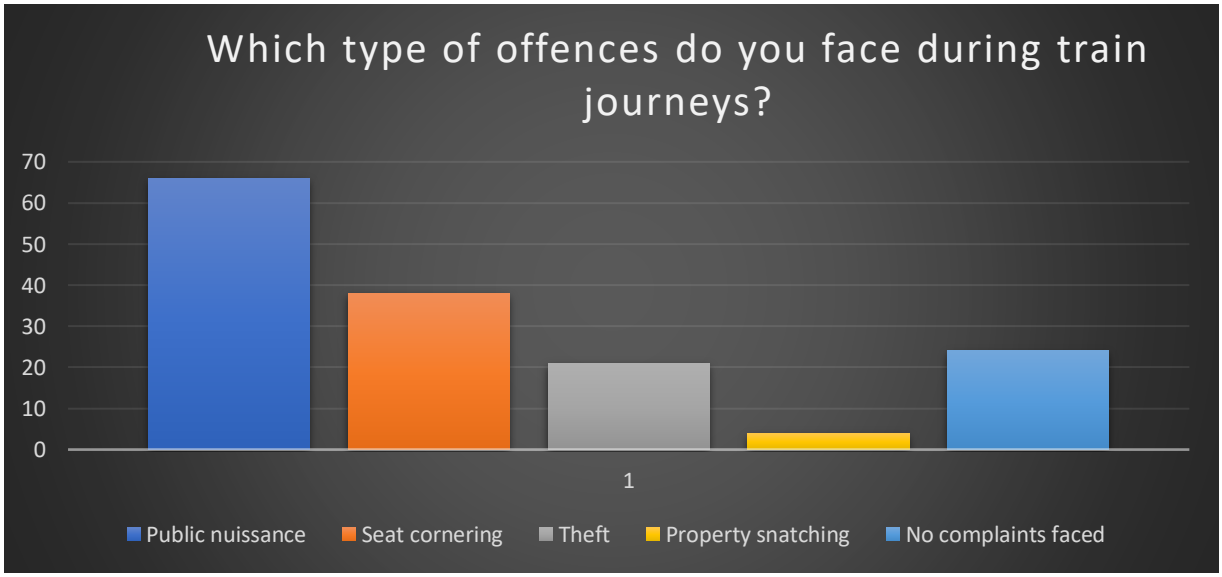


TABLE NO 4.35

TABLE SHOWING THE SERVICES THAT NEEDS TO BE IMPROVED

Indian railways should take measures to improve the quality of services provided to passengers?		
	Frequency	Percent
Yes	147	96
No	6	4
Total	153	100

INTERPRETATION

From the above table it is clear that 96% of the respondent assume yes to improve the quality of services. The rest 4% of the Respondents claim it as no.

Majority 96% of the Respondents claim it as yes.

CHART NO 4.35

CHART SHOWING THE SERVICES THAT NEEDS TO BE IMPROVED

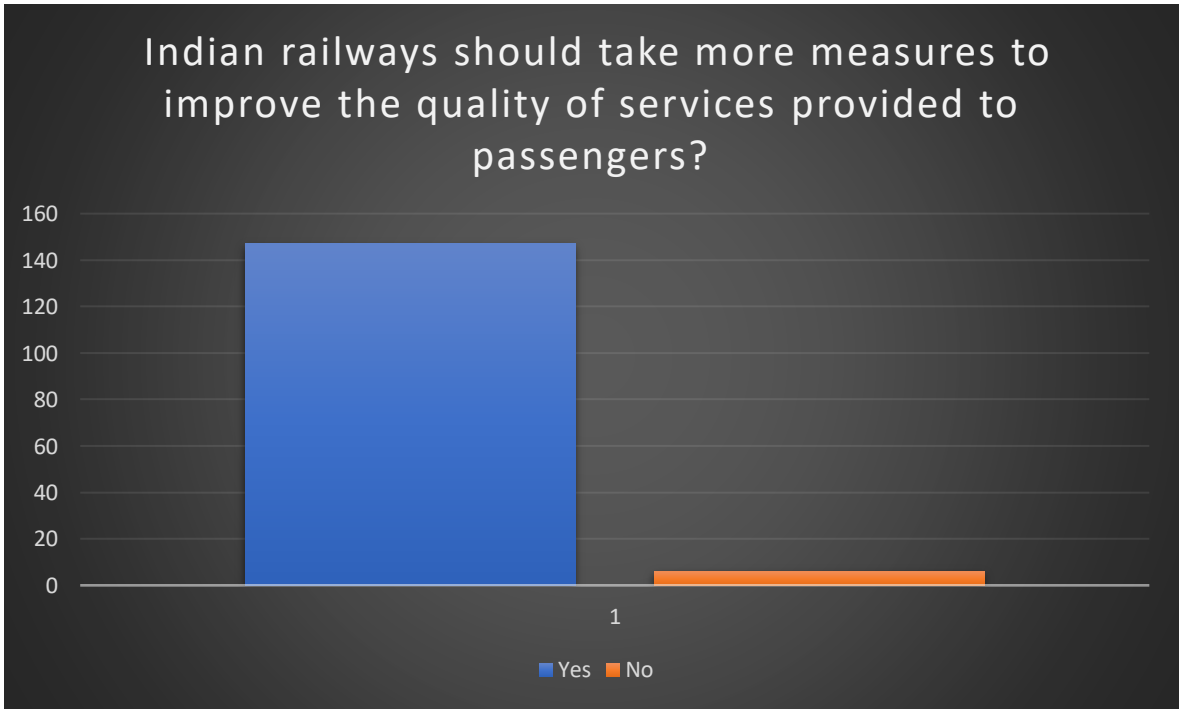


TABLE NO 4.36

TABLE SHOWING IF YES IN WHAT WAYS

If yes, In what ways ?		
	Frequency	Percent
Cleanliness	81	53
Safety	1	1
Retiring Rooms	48	32
Refreshments Rooms	14	10
Enquiry Office	9	4
Total	153	100

INTERPRETATION

From the above table it is clear that 53% of the Respondents say it as Cleanliness. 1% of them tell it as safety. 32% of the Respondents claim it as Retiring Rooms. 10% of the Respondents claim it as Refreshments Rooms. 4% of the Respondents claim it as Enquiry Office.

Majority 53% of the Respondents claim it as cleanliness.

CHART NO 4.36

CHART SHOWING IF YES IN WHAT WAYS

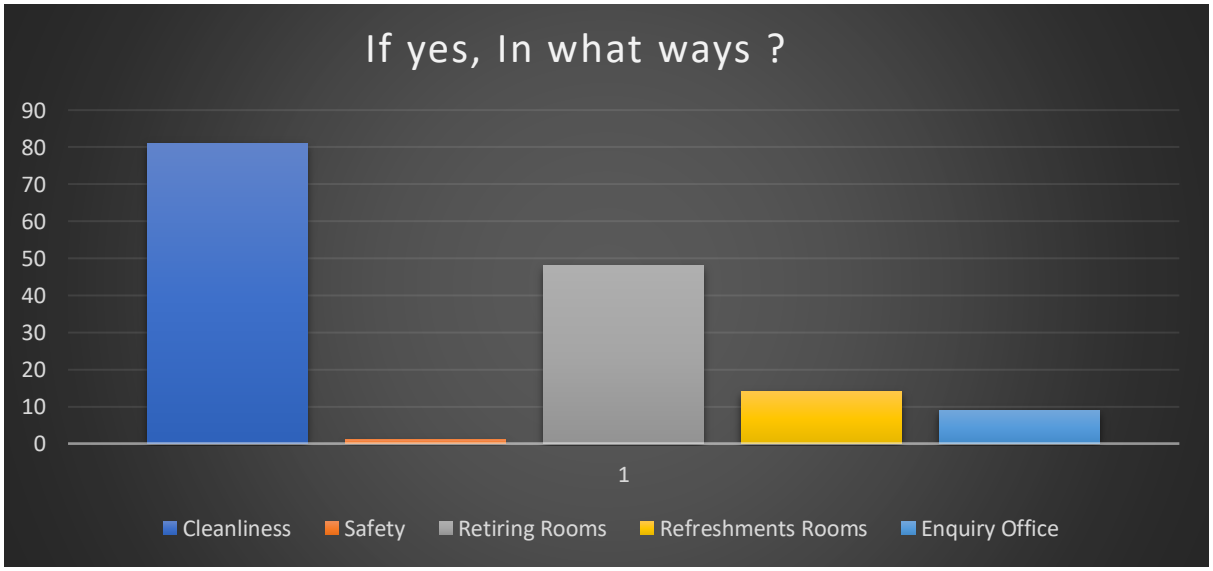


TABLE NO 4.37

TABLE SHOWING THE USE OF TATKAL FEATURES

How often do you use Tatkal Features while Travelling?		
	Frequency	Percent
Frequently	19	12
Sometimes	65	42
Rarely	38	24
Never	31	22
Total	153	100

INTERPRETATION

From the above table it is clear that 12% of the Respondents say it as frequently. 42% of them claim it as sometimes. 24% of them are rarely. 22% of the Respondents claim it as never.

Majority 42% of the Respondents claim it as sometimes.

CHART NO 4.37

CHART SHOWING THE USE OF TATKAL FEATURES

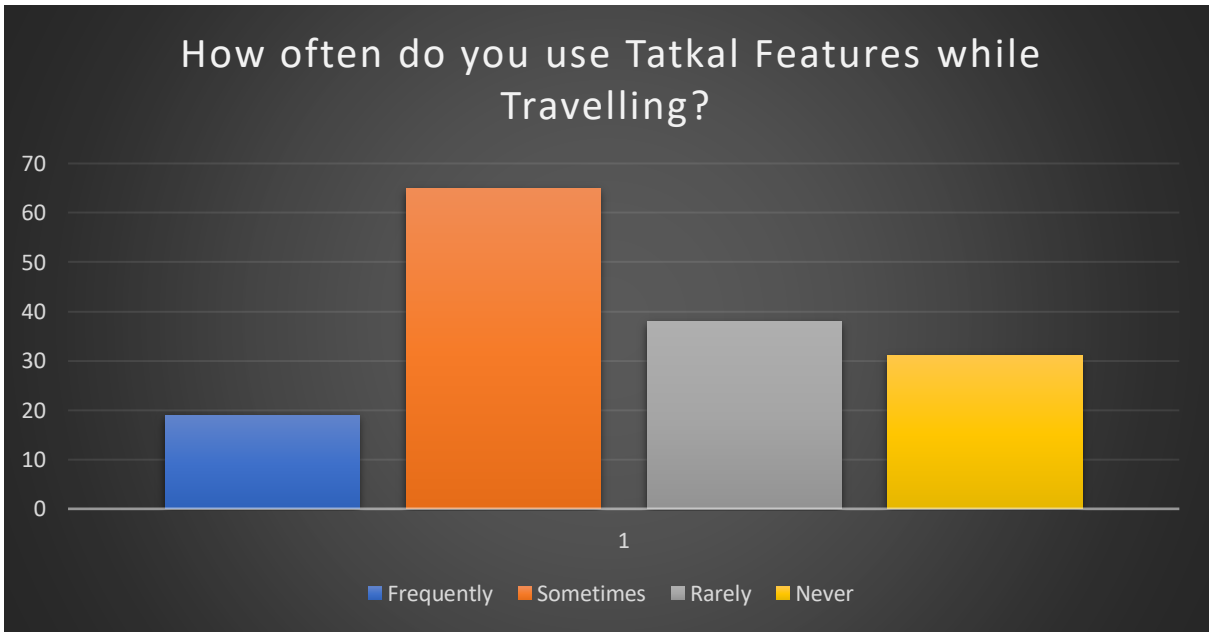


TABLE NO 4.38

TABLE SHOWING THE TRAIN SERVICE RATING

How do you Rate the Train service we provide?		
	Frequency	Percent
Excellent	7	5
Good	75	50
Average	59	39
Poor	12	6
Total	153	100

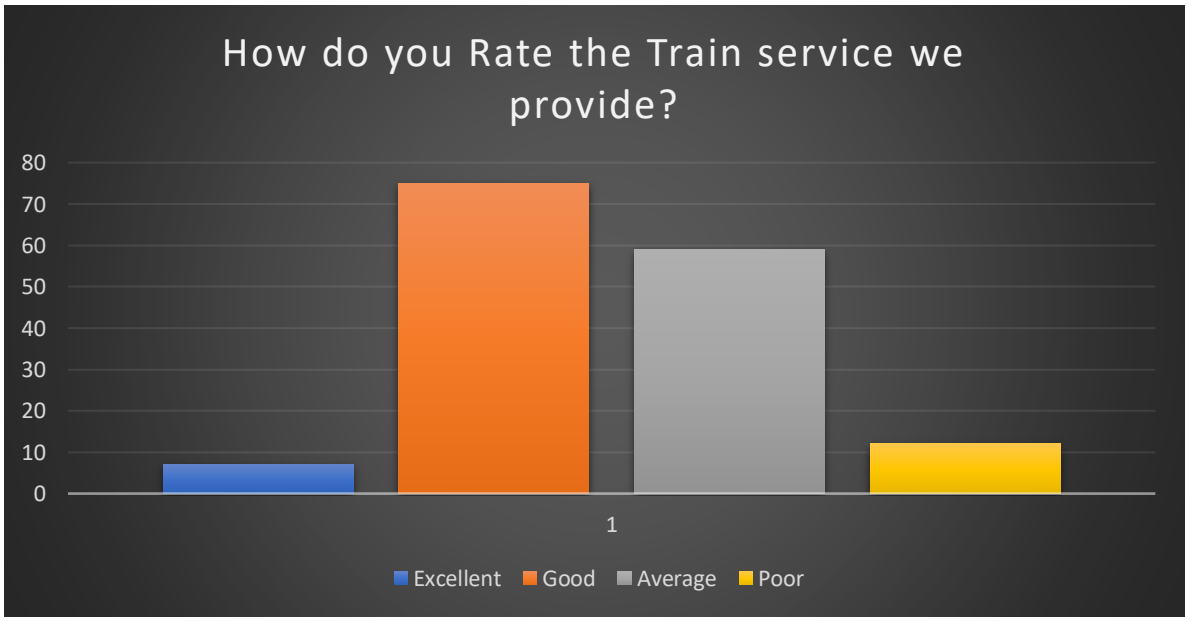
INTERPRETATION

From the above table it is clear that 5% of the Respondents are excellent. 50% of them are good. 39% of the Respondents are average . And 6 % of the Respondents are poor.

Majority 50%of the Respondents are under the category of good.

CHART NO 4.38

CHART SHOWING THE TRAIN SERVICE RATING

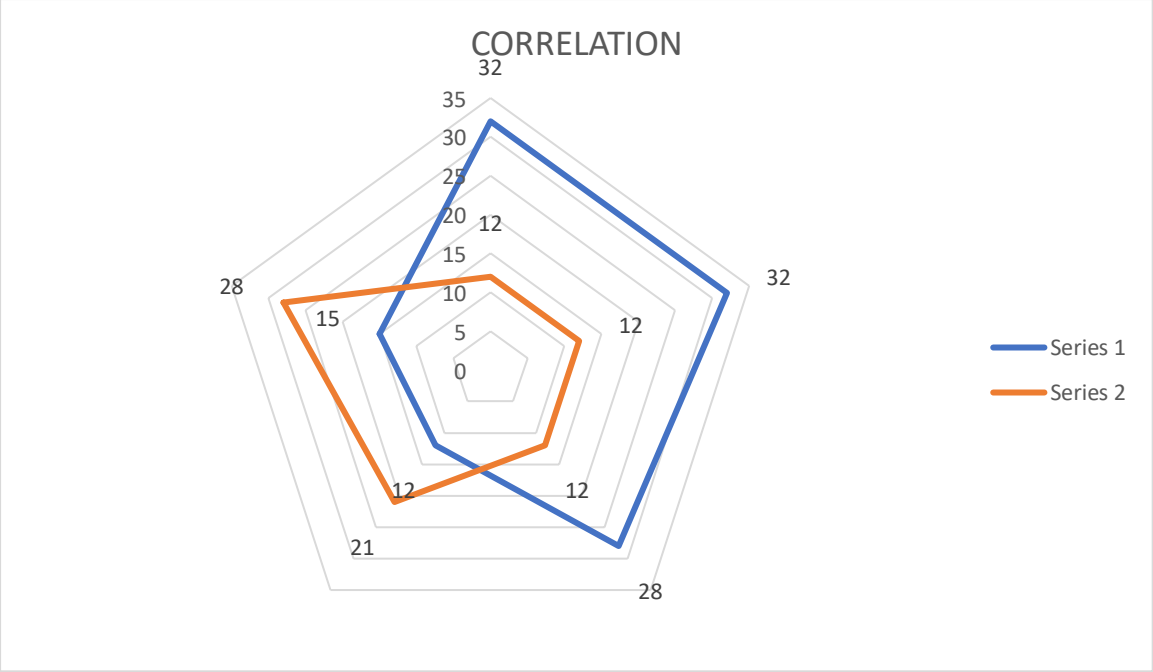


PEARSON CORRELATIONS

Correlations

		How frequently do you travel by Indian Railways?	What is the purpose of travelling?
How frequently do you travel by Indian Railways?	Pearson Correlation	1	-.257**
	Sig. (2-tailed)		.001
	N	153	153
What is the purpose of travelling?	Pearson Correlation	-.257**	1
	Sig. (2-tailed)	.001	
	N	153	153

**. Correlation is significant at the 0.01 level (2-tailed).



Correlation of Frequency of travel with itself (r=1), and the number of nonmissing observations for Purpose of travel (n= 153)

Correlation of Frequency of travel (r=0.257), based on n=153 observations with pairwise nonmissing values.

Correlation of frequency with itself (r=1), and the number of nonmissing observations for purpose (n=0.01).

RESULT :

Frequency of travel and Purpose of travel have a statistically significant linear relationship (*r*=.153, *p* < .001)

The magnitude, or strength, of the association is approximately moderate (.3 < | *r* | < .5).

CHAPTER 5

CHAPTER 5
FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 FINDINGS

5.1.1 PERCENTAGE ANALYSIS:

- Majority 50 % ages of the Respondents are 21-30 years.
- Majority 65 % of the Respondents are Female.
- Majority 69 % marital status of the Respondents are Married.
- Majority 44 % Literacy Level of the Respondents are under graduation level.
- Majority 51% urbanization of the Respondents are urban.
- Majority 49 % occupation of the Respondents are student.
- Majority 42 % monthly income of the Respondents is nil.
- Majority 50% of the Respondents prefer Indian railways whenever required.
- Majority 51 % of the Respondents are attracted by Indian railways for vacation.
- Majority 75 % of the Respondents use Reserved Ticket Holding.
- Majority 42 % of the Respondents are using sleeper class.
- Majority 47 % of the Respondents use IRCTC website.
- Majority 60 % of the Respondents feel satisfied in ticket booking process.
- Majority 47 % of the Respondents feel neutral towards cleanliness in Indian railways.
- Majority 60 % of the Respondents prefer Indian railways for comfort.
- Majority 57 % of the Respondents towards food in the railways are average.
- Majority 55% of the Respondents feel Good towards Availability of power.
- Majority 51% of the Respondents feel good towards sitting arrangements.
- Majority 45 % of the Respondents are neutral in ventilation Facilities.
- Majority 50% of the Respondents are neutral in sanitation facilities.
- Majority 55% of the Respondents are neutral in catering facilities.
- Majority 50% of the Respondents are good in information in the platform.
- Majority 57% of the Respondents are good by facing infrastructure.
- Majority 55% of the Respondents are neutral in catering facilities.
- Majority 30% of the Respondents prefer clean drinking water in Indian railways.

- Majority 30 % of the Respondents are real time updates as improvement in train schedules.
- Majority 49% feel Good in Availability of Dustbins.
- Majority 41% feel good in toilet Facilities.
- Majority 50 % feel good in water facilities.
- Majority 62 % feel good in Condition of flooring surface on platforms
- Majority 57% Platform shelters and pipelines are good.
- Majority 54 % Proper Dressing of Electric and Telecom cables are good
- Majority 46% Control of flies/Mosquitos/ Rats are good.
- Majority 75% use mobile ticket in train.
- Majority 37% use Automatic cancellation if waitlisted tickets
- Majority 36% face public nuisance in Indian railways.
- Majority 42% use Tatkal Features while Travelling.
- Majority 50% feel good about Train service we provide.

5.2 SUGGESTIONS

- The railways should work for bringing a paradigm shift in the customer perception of railways. In this regard periodical surveys have to be conducted to ascertain the customer needs in terms of level of satisfaction and delivery of services.
- The Railways should attract the passengers who travel by airlines and roadways regularly. For this, the railways should improve the facilities both at the compartments and stations.
- The Railways should utilize the unused and underutilized lands for creating passengers' facilities with private partnership to augment overall revenues.
- The Railways has vast development in technologies but it is not easily availed by all the people. The railways should take necessary arrangements in this regard.
- As the development of Railways shall result in development of infrastructure in the country, the government should also extend budgetary supports regularly to Indian Railways.
- The Railways should establish a separate Railways Board for monitoring passenger amenities at zonal levels

- The numbers of general compartments have to increase in order to reduce the overcrowding in the trains.
- Increase in the price of ticket will switch the passengers to other mode of transport. So, authority has to take necessary step to cut down ticket price.
- Authority has to provide training and tries to improve the behavior of the railway staffs so that they have to be more responsive to the passenger.
- Increasing in price of tickets of upper-class compartments will make them switch to other alternative say airlines.

5.3 CONCLUSION

Customer care means a customer should get a feeling that he/she is being taken care of a part from normal service for which he has paid the charges. It does not mean a mere transport of passenger or goods from one place to another by Railways, but also needs to involve an extra care and concern. The researcher strongly believes that if all the suggestions offered are carried out, the Southern Railways may become an effective instrument of development for the economic welfare of the country. To improve the customer care in Railways, the role of user public and their co-operation play a vital role. The image of Railways depends on its personality, perceptions of the passengers and the quality of the products or services offered. In the present scenario there are many facilities available to develop the railway junction and also a railway department. So, the researcher found that the most of the Respondents are interested to given valuable suggestions and ready give support to the railway department to develop their service provide to their passengers. Finally, the researcher concludes that the railway department and railway authorities should take a necessary action to develop and rectifying the problems faced by the passengers.

The Indian government is planning to invest Rs. 905,000 crore (US$141 billion) to upgrade the Indian Railways by 2020. Many lined up projects like Semi- Speed Rails and High Speed Rail are in plans. Along with this expansion of locomotive factories is also under plans. Here are the 10 things you need to know about the green future of Indian trains:

1. Introduction of high-speed trains (350kmph), from the current highest speed of 160kmph, along with the provision of a ultra high-speed wireless corridor along IR's network.

2. Through the elimination of 6,113 Unmanned Level Crossings (UMLCs),it is estimated that an reduction of 66 per cent in accidents is expected.

3. Combining technology and passenger experience, an integrated app to provide all Railways affiliated services including ticketing, taxi etc. will be launched.

4. With a plan of setting up 2 lakh screens across 2,175 stations, they intend to build a dedicated platform for not only advertisements but also to generate passenger information. 5. The fuel consumption of the Railways cost $4.7 billion in the last financial year. The Railway Minister has called for an energy and water audit to minimize the environmental impact and to reduce costs.

6. The railway company wants to source at least 10% of its total energy consumption from renewable energy by 2020. It is currently collecting data from its first test: a solar panelenabled coach.

7. The hope is to come up with a solar policy for procuring 1000-megawatt solar power in the next five years. Currently, the solar panels on the coach in the trial generate 17 units of power per day, enabling the lighting system.

8. There are also plans to build solar power plants in 200 train stations. Solar energy could help power railways at remote locations and reduce reliance on diesel as less diesel generators would be needed.

9. In order to reduce electricity consumption, all the railway stations across the country will switch to LED usage.

10. All coaches in the railways will be equipped with discharge-free bio toilets.

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ANNEXURE

QUESTIONNAIRE

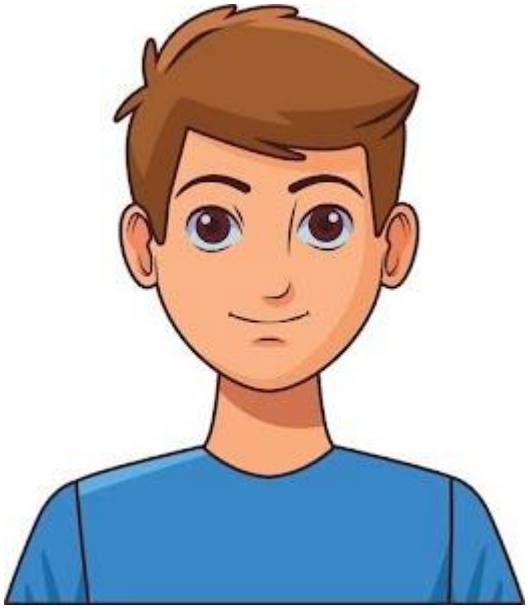
" A STUDY ON CUSTOMER PERCEPTION TOWARDS INDIAN RAILWAYS WITH SPECIAL REFERENCE TO COIMBATORE RAILWAY STATION "

1. **Name** *

2. Age *

- Below 20 Years
- 21 -30 years
- 31-40 years
- 41- 50 years
- Above 50 years

3. Gender *



- Male

- Female

4. Marital status *

- Unmarried
- Married

5. Literacy Level *

- School Level
- Under Graduation Level
- Post Graduation Level
- Professional Degree Level
- Others

6. Urbanization *

- Metropolitan
- Urban
- Rural

7. Occupation *

- Student
- Employed
- Business
- Housemaker
- Professor
- Others

8. Monthly Income *

- Less than 25,000
- 25,000 - 50,000
- 50,000 - 1 Lac
- More than 1 Lac
- Nil

9. How frequently do you travel by Indian Railways? *

- Daily
- Weekly
- Monthly
- Yearly
- Whenever Required

10. What is the purpose of travelling? *

- Vacation
- Personal
- Official/ Business Purpose
- Educational purpose
- Others

11. What is the nature of your Ticket? *

- Seasonal Ticket Holding
- Reserved Ticket Holding
- Unreserved Ticket Holding

12. Which class do you usually travel in? *

- AC First Class
- AC 2 Tier
- AC 3 Tier
- Sleeper class
- General Class

13. How do you usually Book your Railway tickets? *

- At The Railway Station
- IRCTC website
- Through A Travel Agent
- Mobile Ticket Booking

14. How satisfied are you with Ticket Booking process? *

- Highly Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Highly Dissatisfied

15. How satisfied are you with the cleanliness of Indian Railway? *

- Very satisfied
- Satisfied
- Neutral
- Dissatisfied
- Highly Dissatisfied

16. What factors influence your choice of train for travel? *

- Punctuality
- Comfort
- Safety
- Fare
- Availability of seats

17. How would you rate the quality of food provided on Indian Railways? *

- Excellent
- Good
- Average
- Poor
- Very poor

18. Rate Your level of satisfaction on services provided by Indian Railway? *

	Excellent	Good	Neutral	Average	Below Average
Availability of power					
Sitting Arrangements					
Ventilation Facilities					
Sanitation facilities					
Catering facilities					
Information of the platform					
Infrastructure					

19. Which of the following additional services would enhance your train journey experience? *

- Bedrolls
- Eateries on platforms
- Clean Drinking water
- Security Personnel
- First Aid facilities

20. What types of information would you like to see improved in train schedules? *

- Real- time updates
- Platform Information
- Train Delays
- Cancellation information
- Alternate Train options

21. Please Rate the following infrastructure in the Railway Station? *

	Excellent	Good	Fair	Poor
Availability of Dustbins				
Toilet Facilities				
Water Facilities				
Condition of flooring surface on platforms				
Platform shelters and pipelines				
Proper Dressing of Electric and Telecom cables				
Control of flies/Mosquitos/ Rats				

22. What form of ticket do you generally carry in the train? *

- Printed E- Ticket
- Mobile Ticket

23. What are the difficulties faced by you in E- Ticketing? *

- Service Charges
- Automatic cancellation if waitlisted tickets
- Change in name of the stations
- Connectivity problems

24. Which type of offences do you face during train journeys? *

- Public nuisance
- Seat cornering
- Theft
- Property snatching
- No complaints faced

25. Do you think Indian railways should take more measures to improve the quality of services provided to passengers? *

- Yes
- No

26. If yes, In what ways? *

- Cleanliness
- Safety
- Retiring Rooms
- Refreshments Rooms
- Enquiry Office

27. How often do you use Tatkal Features while Travelling? *

- Frequently
- Sometimes
- Rarely
- Never

28. How do you Rate the Train service we provide? *

- Excellent
- Good
- Average
- Poor
- Very Poor

29. Do You Enjoy Travelling in Train? *

Your answer

30. Suggestion. *

Your answer