

**AN AUTOMATION TOOLKIT FOR RESOURCE-
AWARE PUBLIC TRANSPORT SERVICE
SCHEDULING – A CASE STUDY**

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Degree of Master of Science in Computer Science

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DECLARATION

I declare that The dissertation entitled “AN AUTOMATION TOOLKIT FOR RESOURCE-AWARE PUBLIC TRANSPORT SERVICE SCHEDULING – A CASE STUDY” is my own research work and this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other University or Institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text. I retain the right to use this content in whole or part in future works (such as articles or books).

Name of the Student: A G R F Shereen

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Date: 10th of April 2022

The above candidate has carried out research for the PhD/MPhil/Masters thesis/dissertation under my supervision. I confirm that the declaration made above by the student is true and correct.

Name of the supervisor: Dr. Indika Perera

Signature of the Supervisor:

Date:

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ABSTRACT

The Eastern Province Road Passengers Transport Authority (EPRPTA) is one of the most important investment mechanisms for the provincial council launched in 2009. EPRPTA is composed largely of three districts inclusive of Ampara, Batticaloa, and Trincomalee. The transport area in Sri Lanka, especially in Eastern Province has not been the desired qualitative development to provide for the aggressive markets of the contemporary international mainly as demanded with the aid of the commercial and commercial sectors.

Approach to investigate the elements affecting the first-class of provider in public bus transport, and the relationship among the elements affecting, which rely on and independently of the improvement of transport. The study was performed as a qualitative analysis primarily based on the Straussian concept; the facts had been gathered via a chain of interviews and observations.

We discovered significantly affected elements as growing visitors crowding raising expenses of delivery as compared to other inputs one of the different kind routes as the short distance (inside Trincomalee District) and lengthy-distance(out of Eastern Province). Depending on the elements used to measure carrier satisfaction as automobile safety, the physical layout of the station, frequency of departures, online seat booking, and the mode of accessibility can be stated. The provided proof of concept automation toolkit empowers the public transport management officers to effectively plan, organize and carry out their transport-related operations with the help of a managed information system.

In end, we determined that consumer pride closer to public transportation plays a critical position in figuring out the provider's high-quality thereby the expected provider pleasant can be progressed through delivery customers may be reached. In the long run, leading to reducing inefficient non-public automobile usage on public streets.

Keywords: vital factors, grounded principle, qualitative development, criticism

TABLE OF CONTENT

DECLARATION	i
ACKNOWLEDGMENT	ii
ABSTRACT	iii
TABLE OF CONTENT	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
LIST OF APPENDICES	ix
1. INTRODUCTION.....	1
1.1 Overview	2
1.2 Background	2
1.3 Problem Statement	2
1.4 Research Objective.....	3
1.5 Research Design	3
1.6 Outline	3
2. LITERATURE REVIEW.....	4
2.1 Overview	5
2.2 The Historical Background of the Transport.....	5
2.3 Current Position of the Public Transport Services	6
2.4 Desire of Private Bus Service.....	7
2.5 Responsibility of Experienced Private Sector	8
2.6 Required of Effective Controller for Bus Transport	8
2.7 Factors Affecting the Public Transport	9
2.8 Requirements for Bus Sector Reforms in Sri Lanka	10
2.9 Control the Process of Service Procurement and Costing of Services.....	10
2.10 Possible Models for Developing Bus Operations.....	11
2.10.1 Authorization (Permit) System.....	11
2.10.2 Competition through Route Associations	11
2.11 Grounded Theory Research.....	11
2.12 Summary	15
3. METHODOLOGY	16
3.1 Overview	17
3.2 Predicted Factors	17
3.3 Basic Theory with Appropriate Research	17
3.3.1 Dependent Factors.....	19

3.3.2 Independent Factors	20
3.3.3 Controlling Factors.....	20
3.4 Selection of Transport Procedures	21
3.5 Data Collection.....	23
3.6 Theoretical Sampling	23
3.7 Information Analysis.....	24
3.7.1 Constant Comparative Analysis	24
3.7.2 Coding	24
3.8 Producing Idea.....	24
3.9 Analytics of the users	25
3.10 Summary	26
4. RESULTS AND EVALUATION	27
4.1 Overview	28
4.2 Summary	34
5. CONCLUSION AND FUTURE WORK.....	35
5.1 Research Limitations.....	38
REFERENCES LIST	39
Appendix - A: Selection of Factors.....	42

LIST OF TABLES

Table	Description	Page
Table 2. 1	Complications of the bus enterprise in Sri Lanka	7
Table 2. 2	Passenger contentment (source National Transport Commission (2010)	10
Table 2.3	Extraordinary sorts of grounded theory	14
Table 3. 1	Regulating Factors	17
Table 3. 2	Coding for Timing Factor	21
Table 3. 3	Derivation of moderate factors	22
Table 3. 4	Selection criteria of selected route	23
Table 4. 1	Independent and controlling factors	31
Table 4. 2	Table of Testing Report	33
Table 4. 3	Coding for the ability to measure performance.	34

LIST OF FIGURES

Figure	Description	Page
Figure 3. 1	Approach structure	19
Figure 3.9.1	Output of the overall generalization Analyzation of questions	25
Figure 3.9.2	Output of the lively users	26
Figure 4. 1	Output of the overall Analyzation of questions	28
Figure 4. 2	Inquiries to the Passenger	29
Figure 4. 3	Specific Answer scripts	29
Figure 4. 4	Different Answers	30
Figure 4. 5	Case Evaluation by each question	30
Figure 4. 6	Categories of canvassing	31
Figure 4. 7	Wealth to be considered	32

LIST OF ABBREVIATIONS

Abbreviation	Description
EPRPTA	Eastern Province Road Passengers Transport Authority
SLTB	Sri Lanka Transport Board
NTC	National Transport Commission

LIST OF APPENDICES

Appendix	Description	Page
Appendix - A	Selection of Factors	50

1. INTRODUCTION

1.1 Overview

This segment provides the complicated domain by building up from the heritage of the decreasing and locating the vital factors affecting public bus transport demand, this will lead as much as the problem assertion and the targets of the research, this bankruptcy introduces and identifies the elements and a top level view of the imminent bankruptcy and what to anticipate from them.

1.2 Background

The general public transport zone in Sri Lanka has handed numerous years, and now it's been identified that some improper management in handling the bus processes. It displays that restructuring is vital to make healthful green passenger transport services inside. The collets corporation commenced the first bus carrier via working a bus provider from Colombo to Chilaw in 1907, and there may be a records of greater than one hundred years of bus enterprise in Sri Lanka

While comparing with the present day global the transport quarter in Sri Lanka, in particular in province, has not been reached the height by way of adequate the customers, even though there are a lot of transport mode for fashionable public to journey from foundation to a destination and it's miles distinct from modes consisting of automobile-pooling, taxies, or rented vehicles which are not used by strangers without a non-public association. Relying on the countries requirements, for this reason public transport modes as many included buses, trains, fast transits, ferries.

Consequently, this studies results in decrease personal vehicle usage on roads getting rid of critical troubles including congestion on roads, pollution, and coincidence.

1.3 Problem Statement

Sri Lanka delivery at Eastern Province runs with both personal authorities and the general public authorities area as Sri Lanka Transport Board (SLTB). The transport faces big war in keeping with the growing traffic congestion and the rising value of transport as compared to different input. Eastern province consists of extra than masses of inter and intra-provincial routes, as a result as authorities they're looking to convert passengers for personal delivery offerings, through the usage of canvassing and undertaking, reliable delivery in the direction of consumer satisfaction.

While we see several a hit passenger engagement (in phrases of consumer engagements), many appear to be now not up to now powerful. We do not forget four (4) routes with long journeys and 8 (eight) routes with brief trips had been randomly selected.

Therefore, it's miles critical to realize the factors that make a contribution to a success adventure. We particularly challenge to cope with the studies query. There are several successful passenger engagements (in expressions of user engagements),

many of them not to be so far active. We consider four (4) routes with long trips and eight (8) routes with short trips were randomly selected.

Therefore, it is necessary to realize the factors that add to a successful journey. We exactly challenge to address the research of

*“An Automation Toolkit for Resource-aware Public Transport Service
Scheduling – A Case Study “*

1.4 Research Objective

- To discover predicted elements through the literature and observations to begin the studies manner and investigate the interview questions.
- To pick out to give an explanation for a fixed of factors affecting carrier best in public transport.
- To become aware of the call for elements, depend upon transport

Various classes need to jump the research technique and figure the discussion questions therefore literature evaluation and opinion need to apply to become aware of the anticipated elements. Fixed of twelve routes desires to investigate to identify the effectiveness many records which are to be collected from the interviews through using questions therefore essential features that transport faces on call for are need to summarize.

1.5 Research Design

The researches assumption is by the use of the approach of qualitative evaluation with staussian grounded concept to discover the considered essential factors and to address it via a case take a look at of twelve routes from the Eastern province delivery quarter. (Corbin and Strauss, 2008) [1]. Because of the gain of studies, struggles, and achievements which can be unique to transport authority, the Straussian grounded idea layout influenced to research the information to hit upon initial categories and create vital elements [5][11].

1.6 Outline

The relaxation of the chapters in this report is prepared as follows: chapter 2 presents the literature assessment, which include seasonal journeys, elements affecting the transport call for, grounded principle. chapter 3 was described by methodology based on Straussian grounded principles followed with a qualitative approach. Data collection and testing based on the online net portal assessment of twelve routes are then analyzed in chapter 4. Consequences and evaluation, obstacles of the studies and destiny paintings are supplied in chapter 5.

2. LITERATURE REVIEW

2.1 Overview

Section 2.1 introduces the assessment of this and in chapter 2.2. Historical past of the transport segment 2.3 present day position of the public transport carrier, the preference of the personal bus offerings introduced in phase 2.4. Segment 2.5 presents the obligation and in a position non-public sector. Phase 2.6 presents the want for an effective regulator for bus shipping segment 2.7 centered on factors affecting the public transport even as 2.8 focuses on necessities for bus zone reforms had been discussed feasible fashions for growing bus operations are in section 2.9 and segment 2.10 speak approximately the modify the manner of provider procurement and costing of offerings and exceptional standards as permit structures are in section 2.10.1 and segment 2.10.2 supervised competition through course affiliation and segment 2.Eleven offers grounded principle describing different variations of grounded principle, such as Straussian grounded concept.

2.2 The Historical Background of the Transport

W. Colt the individual that turned into began the primary bus delivery carrier in Sri Lanka for passenger and items transport from Colombo to Chilaw in 1907. This service turned into evolved gradually and it became named as Ceylon motors transit. The bus transport service become identified as a worthwhile commercial enterprise and it changed into commercialized quickly. The extra competitors in the area, there was battle among special investors. As at 1942, around 200 busses have been operating in Sri Lanka. The government exposés several guidelines and guidelines to the bus zone while they imposed policies that the bus service in a certain province have to be managed by way of one employer. All bus proprietors had to offer their busses to the employer and come to be a shareholder of the enterprise. Eventually, many bus companies have been arisen and a few companies had more than 400 busses. Those companies did not display a proper gadget to improve their earnings and the carrier traits. They earned earnings at the start as a brand new enterprise, and acted as they understand the whole lot concerning the business. They did not situation over a scientific method mechanism. Soon, there has been a failure within the region.

There have been public riots regarding numerous troubles inside the quarter throughout the fiftieth decade. As a end result, all bus offerings were termed as ‘Janasathu’ while, the Ceylon transport board become introduced. The processes had been prepared with the aid of acquiring recommendations and consultancy from the London transport board. There had been few factors which encouraged the upgrading of the Ceylon transport board inclusive of, employee enthusiasm

1. Guidelines and the guidance of the London transport board
2. Six-year pre- scheduling
3. Enticing professional personnel for the management
4. A civil officer inside the class-I was appointed because the chairman of the board
5. Being a reduced quantity of politically conscious

The arrangements have helped to the higher carrier control below the educated administration in the Ceylon transport board.

1. Medical carrier scheduling and operationalizing them
2. Establishing a provider hyperlink via combining urban bus services
3. Reducing the terminal time
4. Increasing the vehicle and employee utilization
5. Direction reforms and service regulation
6. Collecting required facts
7. Schooling for employees in each grade
8. Research activities

The bus service was developed island huge through working consistent with the mentioned point while, the Ceylon delivery board became a profitable institution. It changed into an advanced service machine and there has been a service hyperlink most of the cities. After a while, the device certified a downside. Non-public busses had been joined to the world after 1977 [33] Guidelines and the guidance of the London Transport Board.

2.3 Current Position of the Public Transport Services

A remarkable and increasing monetary problem, that's the importance of uncontrolled scarcity financing of the publicly owned operators. Whilst the precise subsidies are, the general public arises from a fashionable wage fee subsidy, which permits the continuation of severe ranges and fallacious structure of staff within the public agencies. The ongoing existence of the SLTB and EPRPTAs, which have no big continuing functions, make worse this [22].

Bad operator area, which includes lingering, racing, and other risky riding conduct by buses (commonly the private area) and undisciplined conduct by crews. The personal area buses usually do now not issue tickets. Disappointment to operate scheduled services is predominantly a trouble of the public region, but is commonly hidden by means of the provision of excess capability inside the private quarter [10].

Poor focused on of subsidies, which incorporates the charge of faculty transport subsidies from the ministry of education solely to the public area operators for offerings which might be typically now not supplied; and the source of controlling of blended provider subsidies additionally through the general public agencies with none function being finished by means of the relevant authorities (the provincial councils and the NTCs) and without good enough unbiased audit of the subsidy claims [26].

Private bus offerings show an inefficiency and coffee satisfactory of carrier, and unchanged conditions continue to be the equal in lengthy-distance carrier, which is to be higher-nice to satisfied circumstance. Flawed passenger loading degree of buses at some point of uttermost hours and it makes inconvenience for passengers, which causes a modal rotation from public transport to private shipping. Generally, Monday

morning and Friday evening buses operating to Trincomalee to Colombo and Trincomalee to Batticaloa are full of passengers exceeding the wide variety of seats of the buses, as identical as there are luxurious buses contains passengers without seats as nicely. However, these conditions shows that the bus provider fails to deliver a demand-responsive service. Besides, commonly, maximum of the buses working inside the morning and nighttime top hours are complete of passengers [26].

Table 2.1

Difficulties of the bus enterprise in Sri Lanka

Periods	Policies	Problems
1907-1938	Formative years of tolerant competition	Proprietor-service industry involved more routes have been over bused and a few were unnoticed. Injuries and cutthroat fares.
1939-1957	Consolidation underneath a regulated private monopoly	Control of organizations did not enhance the first-class of provider.
1958-1978	Expansion underneath a nationalized kingdom monopoly	Failed of management. High fee, overloading, and shortage of reinvestment.
After 1978	Regulated blended opposition	Nation operators unable to create a opposition. The non-public zone develops without a regulatory frame and proprietor-operators enterprise.

2.4 Desire of Private Bus Service

When defining the scope of the questions for bus delivery is good sized and the kingdom isn't always capable (or inclined) to provide enough

- assets or
- entire regulation or
- both to provide the anticipated fine and quantity of bus offerings demanded [16].

To lessen the chance of a potential (particularly unexpected) discontinuity of all bus offerings (the public dominant mode of delivery in Sri Lanka) motives because of exchange union action when bus offerings are regulated via a state employer,

To result in new functions of revolution, merchandising, and hazard-taking this is necessary to systematically increase bus services, for which the personal quarter is better geared up. Bus offerings have failed for customers to apply their journey time successfully. Long-distance bus carrier nonetheless has no longer furnished fee-introduced offerings including supplying centers to use laptops, centers to shop for softy liquids and foods, studying newspapers, being attentive to the radio even as touring on the bus. However, these forms of facilities are required by using the passengers who contain within the business and business area, and absence of these

services has discouraged passengers to apply public transportation and it reduces passenger delight stages [29].

2.5 Responsibility of Experienced Private Sector

The visibility of the personal quarter into the bus enterprise has seen various effects during the last 25 years. At the economic element, they have made massive investments (although normally through single bus proprietors in preference to corporate bodies), they have additionally answered to the introduction of better excellent (air-conditioned) offerings and new offerings. On the opposing element, make performance of services have failed, idling of buses at terminals and stops have enlarged, coincidence-chance factors have improved, the productivity of crew and buses has reduced. These maximum elements have interrelated to purpose sharp growths in overloading of buses as fares had been constant. Fares in actual terms have now not decreased down with extended opposition, in preference to the exceptional of service that has worsened as measured by using most indicators [7].

These problems have been lately analyzed and properly documented the benefits of the private quarter investment and management of offerings have now not delivered the preferred result as is apparent to the bus passenger nowadays. Further, the personal sector access has fragmented the mixing of the bus network, and transfers have come to be tough [12].

The country wide transport fee (NTC) issues passenger transport lets in through thinking about passenger request for each course to make rules to work with the passenger and the service provider [18]. The fee is liable for producing a precise direction to make use of the country's resources within the transport region.

The services supplied by means of the single bus personal operator has proven that they might best operate while and in which it's far worthwhile to do so. As such the routes and instances of the day whilst it is not financially remunerative are not operated. The regulator is unable to put into effect a timetable and this has led to extreme extensive- ranging effects in constraining the mobility of hard work, distorting land use development, and abandonment of rural areas. Normally, and for some exceptions, it could be held that the non-public sector has did not provide the high-quality of carrier that has been anticipated from it. The reasonable fares and the specific bus ownership were the maximum essential reasons for this situation, recent look at and documentation reveals that hosts of regulatory lapses are the basic motives of this example [11].

2.6 Required of Effective Controller for Bus Transport

This reason can be defined as a means of enforcing a framework of public manage over personal procedures. To govern the manner to ensure that the most efficient utilization of resources accomplished. This performance than may be changed over to the passenger via lower fares and higher first-rate and to the operator through the introduction of a more stable surroundings for boom and continuity of the industry.

While the supply of supply (extensively sophisticated towards the end length of nationalized bus shipping) is characterized with the aid of rampant overloading, unreliable offerings, getting old fleet with everyday breakdowns, and conspicuous push aside for passenger wishes [26]. In another word, supply balances (as seen on maximum routes these days) additionally has similar characteristics particularly, the limit of supply' main to the accumulation of buses at passenger terminal, 'normal competitive' behavior operators, socially undesirable practices which include inflated fares, lingering at halts, systematic overloading, and additionally 'predatory' practices such as speeding between halts[26].

To make sure the approximate regulatory of non-profitable services which if left entirely to market forces could result in their forget about, mainly the agricultural and terrible groups and the 'overdue-night time' and 'early-morning' services on even the normally gainful routes dispatched freedom to do away with from such offerings (without damages) and offer most effective profitable offerings has induced predominant social distress, the load of which, the nation bus region has been known as upon to undergo. To maintain the power parameters between 'exceptional and fare' with the aid of reading and negotiating fares policy, requirements, and running expenses of offerings and any tiers of subsidy payable for precise services wished for providing outside socio-monetary advantages [28]. To make sure that there aren't any to access of bus operators created by way of either the state or personal region through monopolistic conduct and other unethical practices [26]

To recommend and expand the bus provider as a community of offerings and routes, integrated and to all other modes of transport and to be conscious of the consistent variety brought about by way of the development of technological innovation, land use improvement, social mobility, and monetary situations [27].

To confirm the rights of the bus passenger, through formulating policies and constantly improving them and by way of analyzing complaints made by using passengers and taking movement against violations of regulations and guidelines via operators.

2.7 Factors Affecting the Public Transport

The country wide transportation commission involve passenger transport associated inspections to recognize present conditions of the bus enterprise, according to its survey to review passengers pride concerning a few exceptional elements as we discovered severely are developing traffic congestion raising fees of transport compared to different inputs special routes as a short distance (within Trincomalee District) and lengthy-distance(out of eastern province) depend on the elements used to measure provider great as usual nice, car safety, the physical layout of the station, bodily nice of the automobile, records concerning the time table, journey time delay, frequency of exits, price ticket device, on-line seat booking, rate stage, the performance of reliability, crews attitude, inquires / complaints, appreciation of tour

velocity and time, connectivity, accessibility; information and environmental effect, safety whilst journeying, area of motive force and conductors[29].

Table 2. 2

Passenger contentment (source National Transport Commission (2010))

Quality Factors	Satisfaction level of passengers				
	Satisfy	Somewhat satisfy	Average	Not Satisfied	Extremely not Satisfied
Standard excellent	20%	37%	31%	11%	2%
Loading stage	4%	20%	33%	30%	12%
Journey time	16%	29%	30%	19%	6%
Ready time at bus terminal	17%	29%	32%	15%	6%
Safety when Traveling	23%	27%	30%	14%	6%
Area of driver and conductors Overall quality	18%	28%	33%	16%	5%

2.8 Requirements for Bus Sector Reforms in Sri Lanka

To bring about reforms in the bus zone to result in an immediate and direct effect at the first-class of bus transport, the listed procedures to be completed.

Provoke a study and powerful governor who will decide the high-quality routing of bus services in step with passenger demands, identity of carrier exceptional tiers and fee of such, specifying enterprise norms relating to protection, education and car conditions and several other essential capabilities of bus regulation should be developed and used in the control of the bus industry. The private quarter will no longer perform any of these and it is up to the nation to have these so that offerings may be procured as is required by the general public.

2.9 Control the Process of Service Procurement and Costing of Services.

To result in reforms within the bus area to bring about an instantaneous and direct effect on the exceptional of bus shipping, the activities must be finished.

Provoke a sturdy and powerful governor who will decide the first-rate routing of bus offerings in keeping with passenger demands, identification of carrier tremendous levels and price of such, specifying organization norms regarding safety, education and automobile conditions and numerous different vital abilities of bus regulation must be developed and used inside the manager of the bus industry. The non-public

region will not carry out any of those and it's miles up to the nation to have these in order that offerings can be procured as is required by the general public.

2.10 Possible Models for Developing Bus Operations

To govern of creating to improve the satisfactory of both the country-run offerings and the privately operated offerings, it is obligatory to recall which of the fashions used out of Sri Lanka are most appropriate for handling bus passenger services.

2.10.1 Authorization (Permit) System

The trouble will become unwieldy while there are numerous operators. It is excellent as a particular-regulatory system, in which the kingdom region operator is the dominant operator and a specific few services are given to personal operators. The allow machine started out in Sri Lanka below one of these condition, but has lengthy outlived its suitable use as a device with a huge number of private region operations cannot be correctly monitored below the allow machine. The permits are basically renewable among 1 to a few years and not cancelled unless the situations are located to be violated. With none competition the allows, as it's miles issued on-demand or so as of application. It breeds corruption when there are greater candidates than there are vacancies for buses on routes and subsequently oversupply happens.

2.10.2 Competition through Route Associations

In maximum 1/3 world international locations, there are operator's direction institutions, operator's unions, or cooperatives. In addition to presenting miscellaneous services to their individuals, those corporations regularly workout a degree of supervision and manipulate that provides an improvement from a complete free for all (underneath the permit device). However, those unions should be 'socialist' and commercial enterprise-minded to attain such goals. Techniques must be taken to prevent some dominant operators from taking office and developing the gadget for his or her gain (Eg. Personal omnibus institutions that were disbanded in the 1990s).

Example: In the case of Buenos aires, a complete of 15,000 personal buses are formed into round three hundred direction associations. The proprietors are chargeable for working and keeping their automobiles, whilst the direction associations expect responsibility for scheduling bus services. They offer their participants with administrative and criminal advice. Because the government fixes bus fares, the unions also negotiate fare increases with the government. In maximum cases, the proprietors preserve the fares collected however the union ensures equitable income with the aid of interchanging routes and schedules each week.

2.11 Grounded Theory Research

Two people as Glaser and Strauss involved a modern day form of qualitative investigation in 1967 and it was titled as grounded principle. It's a methodical technique which create an idea with the aid of non-prevent analyzation of records. A studies targeted by using grounded precept similarly, to begin up, the gathering of

qualitative facts to illustrate an idea mapped carefully to the records and this approach is evaluation to nice research. The appropriate approach became offered to authorization the methodical series of information, analyzing them, and exploration of facts.

Two inventors stated that the technique have become functioning in computable studies additionally but they targeting qualitative research because of the appropriateness of developing techniques through facts. Primarily three significant essentials of the above research idea, which name as methodical gaining of data, regular comparative approach of research, and era of concept. The cause of the approach to produce an incorporated concept based totally on the mind making at some point of the system.

Grounded concept approach includes regarding intently with records and building a present day concept from information as opposed to following assumptions designed or preconceived principles. Particularly, so much varieties of grounded concepts; formal and high-quality. Specific areas of this have a examine bypass underneath splendid precept and the focal point of this studies is on a selected region that is about to grow to be aware about vital success factors to beautify the delivery. A bigger vicinity of look at are covered with the aid of formal concept both(1967) noted each formal and significant concepts should be in statistics [1].

Grounded concept rejects making use of formal concepts earlier than gathering statistics and to produce important principle through the information that steer clear of imposing the information to in shape into defined theories. The intention of grounded concept is to produce a precept that suits statistics and run nearly. Furthermore, the era of concept should be in some unspecified time in the future of the research method now not in advance than or not right after the research procedure. A above precept methodology is properly-matched to discover essential achievement elements to enhance transportation on social media due to the reality it can be completed with the aid of way of studying data, that permits you to be collected from, therefore, it's far crucial to analyze facts before creating any choices marshall and rossman (1999) said that the above researchers are disordered cause of the truth they do now not begin with a compound set of regarded variables to be in assessment to an impartial reality. However, in above concept this untidiness is a bonus to interest on records.

Both of them introduced the concept in 1967 and few versions of mentioned concept are delivered to this point. Glaser's method (1978, 1992) is referred to as conventional (Glaserian) grounded concept, and Strauss's approach (1987, 1990, and 1998) is called Straussian grounded concept and Charmaz approach (2008) is known as Charmaz or constructivist grounded idea (Ross, 2014). Straussian-grounded precept permits a literature examine [1]. Conventional grounded concept need to be refrained from to preserve the way of recent principle technology free from preconceived thoughts. Usages of literature with one of a kind variations of grounded precept are furnished in desk 2. Eight (ross, 2014)[11].

Table 2. 3

Extraordinary sorts of grounded theory

Classic/ Glaserian Grounded Theory (1978;1992;1998)	Straussian Grounded Theory (1987;1990;1998)	Charmaz/ Constructivist Grounded Theory (2006)
The begin stage study of the literature review must be prevented for applicable areas and strictly associated regions	Allow to begin stage study of literature evaluation. Not needed to go through all of the literature in the location.	Persuade to delaying the beginning study of literature review to allow the researcher to compose their ideas however advise including literature evaluation within the studies process
Permit existing literature for comparative evaluation when the middle class appears and the principle is nicely advanced.	Literature can use ongoing studies system and it could be used as a secondary facts supply or for contrast with the records	existing literature may be used to make clear the thoughts and make comparisons
Existing literature within the early degree can reduces researcher's interest from simply what the researcher wants to do with records	if extant literature stands among the researcher and statistics then it delays creativity.	If it is important to use existing literature then it has for use without letting it distract
A literature evaluation must be incorporated into the evaluation as records if it is already achieved.	The literature uses to help outline houses and dimensions to concept development and direct theoretical sampling.	Pick out the connection between contemporary studies and previous studies related to the identical area and identify sizable findings.
Researcher's theoretical sensitivity receives diverted if he or she is	engaged with the literature within the significant enticing with literature can assist formulate studies questions and improve	

Straussian grounded principle allows us to apply an initial assessment of the collected works, also stated there may be no need to check all of the previous collection based at the situation [2]. Literature is used as a minor source of facts and researchers interacts with data collection concerning continuing studies procedures. Consistent with Strauss it helps for theoretical sampling, idea growth, and defining residences

and dimensions. Furthermore, it leads to improve theoretic understanding to direct studies questions. Thornberg (2012) mentioned that the usefulness of the use of a literature overview even in a traditional grounded concept studies assignment. Strauss and Corbin (1990) familiar that the preliminary works assessment which wished and can be used without avoiding the researcher's open method to facts series and concept era. Here the literature assessment used for distinct purposes. Literature enables to identify.

The origin of the studies and to form theoretical sampling. Studies questions had been additionally built by way of taking assist from literature.

2.12 Summary

We determined six elements through literature overview and observations and those can especially enhance to a hit passenger delivery services. The ones elements consist of exceptional elements, overall exceptional, loading stage, travel time, waiting time at the bus terminal, safety while traveling, discipline of motive force and conductor.

We also located that platform guidelines, regulations, and government constraints may be affected by the electricity of the connection between the impartial and established elements.

3. METHODOLOGY

3.1 Overview

On this section 3.1 gives the evaluation and phase 3.2 provides literature assessment through the predicted factors apprehend by way of researchers' observations. Section 3.3 discusses qualitative research and Straussian grounded-idea and section three.4 discusses the selection of transport processes and in phase 3.5. Information collection in segment 3.6 theoretical sampling and phase 3.7 presents the statistics analysis manner. Sooner or later, in 3.8 the generating of the principle and analysis of the users in segment 3.9 summary discussed in phase 3.10.

3.2 Predicted Factors

With the first revision of the books a variety of things were introduced and people could become genes, which affect the success of the changing and always equitable riders. Along with the original texts these things can be written as a type of campaign, how to engage, active viewers, time and resources. Three tables.

Table 3. 1

Regulating factors

Independent	Controlling	Dependent
Type of campaign (Schaffer, 2016)	Platform policies and laws (Rothwell, 2016; James, 2014)	Passengers investigate further / remain at the EPRPTA
Mode of engagement Eg: Platform, snap shots, motion pictures, and pages (Daoud,2016;Schaffer,2016; Lindsey,2015;DeMers,2013; Moritz,2015)	government policies and regulation	
Lively spectators (Daoud,2016;Schaffer,2016)		
Timing, e.g. Time of day, month, and year (Patel,2015; Schaffer, 2016; Bagadiya,2016)		
Resources • Necessary needs • Cost for resources		

3.3 Basic Theory with Appropriate Research

By engaging in data collection discussions I also saw a vision based on Straussian law-abiding the way to the activities of collecting and documenting interview facts in direction to identify and improve the categories and priorities to be considered. Because the dissimilarity between Straussian and classical based theory [1], allows for a complete view of literature. Strauss' ideas, which support the ideas of the

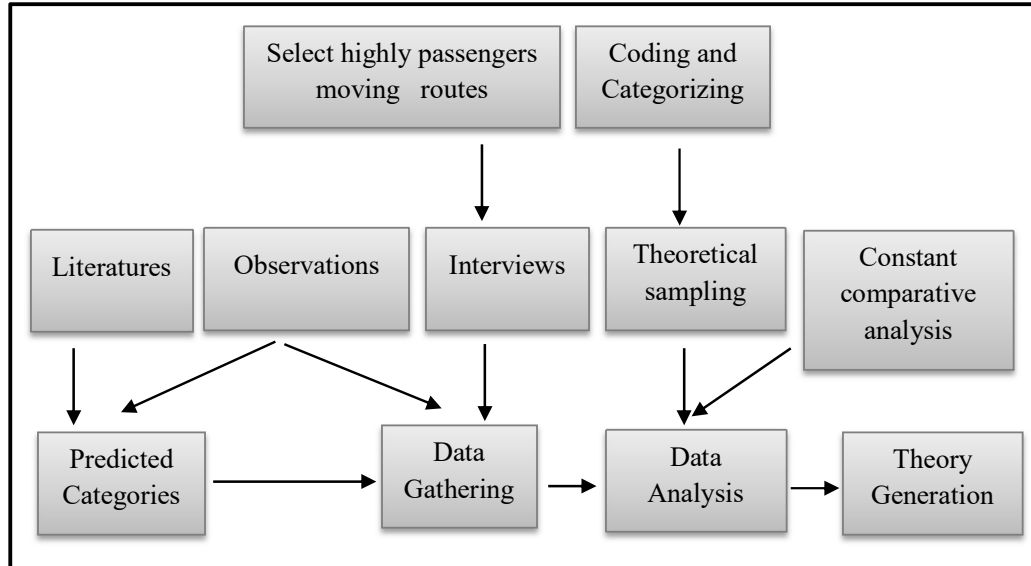
improvement of the awareness, the scriptures reinforce theoretical examples, and explain homes and their greatness. In addition, it allows for the acquisition of doctrinal sensitivity and for making study questions [1]. But the procedure of common sense in the usage of literature to retain the new technological process unstable to the ideas it once had when it was not advisable now [1]. Texts converted as a small mathematical foundation and researchers can incorporate texts throughout the knowledge activities, reviewing texts is used to recognize the curriculum and build theoretical theory. In addition, through book research questions it was improved.

Figure 3.1 shows the organization of the method. In positions of literature, the course of research, the identity of diversity, and the assembly of interview questions have changed dramatically. Classes are estimated to identify the work used and related and the authors have seen it very well. Discussion questions were considered based entirely on the expected categories. Thereafter the flexible adjustment of the riders is always consider the analysis. People who were looked at everywhere in these categories were interviewed for each detail. The information collected from the interview was analyzed by coding, by categories, by observing into the results of the conversation. The ultimate priority is ultimately determined established on the evaluation of the records. With high opinion to literature, the progress of study, the ownership of diversity, and the preparation of interview questions have changed dramatically. Expected classes identified used and related experience and the authors saw it very well. Discussion questions were taken based entirely on the expected categories. After that the variable adjustment of the passengers is always considered in the analysis. People who were looked after everywhere in these categories had been interviewed for each information. The material gathered from the conversation was analyzed by coding, by categories, by checking the interview responses. Priorities were finally determined mainly grounded on the evaluation of the records.

Figure 3.1 shows the relationship of the manner, at the opinion of literature, the progress of revision, the identity of diversity, and the assembly of interview questions have changed dramatically. Classes are which to recognize the work used and related and the authors have seen it very well. Discussion questions were considered based entirely on the expected categories. Thereafter the flexible adjustment of the riders is always determined in the investigation. People who were looked at everywhere in these categories were questioned for every detail. The data gathered from the discussion was investigated by coding, by categories, by looking at the output of the interview. The ultimate priority is ultimately determined grounded on the evaluation of the records.

Figure 3. 1

Approach structure



Twelve routes have been selected for the eastern province as a result of the transfer of objectives and the appropriate routes have been selected as goal lines. The service delivery exchange in Sri Lanka has a few memories of high engagement in link with the number of annual services that provide obligations, in accumulation to security while traveling, for this reason we have chosen a unique feature of the alternative approach. In addition, random riders of each selected and interviewed. As a result, the modified method has now changed and is not used in this view as the statistics mainly contain the issues, difficulties, and accomplishments of those lines, which may be direct to them. Therefore, according to the content of the interview we focused on a quality approach in which passenger involvement would be considered as a case and analyzed. Sensitive elements were analyzed to identify quality research and performed to collect large data in specific regions. Critical study studies often rely on predictable classes to start a series of data and build a list of interview questions.

3.3.1 Dependent Factors

Steady with this have an observe a success passenger converts and the left over passengers are dependent elements which reply to the changes in impartial and controlling elements. The following are will no longer change throughout the study, very last intention is to have passengers who engaged with trips at seasonal and stale seasonal. We assumed that the elements comprise precise factors considered as a hit quality transport [8].

3.3.2 Independent Factors

Table 3.2 suggests the derivation of self-regulating factors through coding. Those elements have an absolute contact at the established thing, and the unbiased factors are exposed with the aid of reviewing literature and observations.

Some many systems and companies create debts on every popular shipping mode, a strong awareness on which stage will convey the most pass lower back [2]. Pics are more to capture the spectators interest and produce more traffic inside the busses in comparison to textual content. Movies may be used to give an explanation for the whole lot and improve conversions, when to put up offerings from reputed provider carriers might also need to lessen price and chance. Transport has to undergo in thoughts numerous elements to start and hold advertising and employer. On behalf of delivery it's far a key thing as the wide variety of reactions obtained for, a company each day is predicated upon at the time of a specific day, day of the week, and seasonality length. The spectators are another element, as delivery provider allows focused advertising and marketing to unique spectators based on their gender, age, likings, and social reputation. As a examine several offerings had to start on face-to-face verbal exchange [29]. For this reason, inclusive of the ones on a whole view and those factors consist of the kind of people engaged, mode of engagement, energetic spectators, timing, and homes. Those factors right now have an impact on the achievement of the shipping reliability, consequently; these features considered as independent factors.

3.3.3 Controlling Factors

Those affect the strength of the relationship between the impartial and based factors are controlling elements. Table 3.3 suggests the derivation of ok factors via coding. As with all transport advertising on the good sized domain, regulatory necessities, and media policies also practice for advertising for shipping [11]. Furthermore, the selected platform may have its personal set of legal guidelines and, regulations, Eg: advertisements published on buses and halts cannot have plenty of textual content. Consequently, those rules and guidelines may have an effect on the achievement of marketing on shipping.

Table 3. 2
Coding for Timing Factor

Selected Categories	Axial Coding	Open coding
Mode of engagement	Platform	Companies generally tend to make on radio, television Organizations do now not inquire which platform will carry the maximum return. Companies must avoid wasting time in the incorrect locations. pick out the proper region may be very crucial
	Snap shots	Special styles of modes of communicate textual content, links, pix, and motion pictures. Photos admit to seize the spectators attention Photos get extra perspectives of the marketing campaign. Big fashion with image-centric advertising and marketing as opposed to text-primarily based.
	Movies	The famous perfect of communication is video. Easy manner to show a way to do something. People like to observe and concentrate as opposed to analyzing undeniable text. Video may be used to give an explanation for the whole lot boosts conversions and sales.
Timing	Time of the year / month/ day	The proper time for the shipping is extra critical. The greatest length of the year Greatest days of the week to tour. Greatest time of the day.

3.4 Selection of Transport Procedures

Considering the transportation approaches that govern bus carrier are vital, the regulator need to manipulate character bus proprietor, problems and difficulties in relation to controlling the massive variety of bus operators working on special routes, and this sort of scenario desires to be regulated by exceptional manipulate system. The coverage makers of the public delivery zone found out that this form of regulatory device was ineffective and turned into a manner to enhance carrier best. This system creates competition between road buses (market competition) to choose up extra passengers to boom daily sales in keeping with bus, and the subsequent situations are created with the aid of operators based totally at the minimal requirements for passengers.

- Flawed loading fee and trouble for the passenger.
- Uncommon operation of buses.
- Indoor situations under the proper and occasional degree of consolation for buses.
- Excessive opportunity of injuries.
- The operation of the buses isn't always in a solid situation

Table 3. 3

Derivation of moderate factors

Selected Factors	Axial Coding	Open Coding
Platform regulations and guidelines	Platform rules and regulations	Organizations of bus proprietors should adhere to NTC rules. There are a fixed of things that groups have to do and do now not.
Authorities constraints	Standard guidelines to don't forget	There are steorage to pick out the guidelines, guidelines, and dangers of social media for economic establishments a few governments around the sector defined

Table 3.4

Selection criteria of selected route

Factor	Benchmark
Kind	It have to be a passengers conversion
Person engagement	No of agreed humans be more than 50% or extra Or no of involvement ought to be 20% or extra Or no of investment need to be 10 or extra
Period	seasonal experience
Routes	respective routes have been decided on as goal routes

3.5 Data Collection

Using interviews with key vendors under interesting courses is a strategy to gather the facts of these studies. As a result, twelve people on the routes in the eastern province were considered as test respondents [3]. The spectator is to be in charge for the resolve of passengers on certain routes is the goal. Reason of many reports, the complexity, and the fulfillment of those lines are accurate to themselves the technique of measurement is not appropriate for this consideration. Consequently, link the content of the discussion, this looks to attention on a quality approach where it is determined that riders of all directions can be measured guilty and analyzed [4].

The most significant area of this is observing at information series and it complete with the intensity and speed of conversations. The discussions were conducted through target of the people, which was reflected in the hard and fast passing of passengers on the various routes in Sri Lanka [27].

Once the negotiations were completed, the interviews were recorded manually coded without delay after each interview as this view was guided by Straussian-based theory, emphasizing the meaning of coding [15].

The researcher personally conducted interviews and interacted with respondents in both face-to-face conversations and smartphone conversations. The activities observed during the interviews were tone and body tone. Such observations are highly documented, which is used to analyze records. Further discussions were conducted on the use of private communication skills and appropriate questioning, which were found to be equally critical.

3.6 Theoretical Sampling

Critical to constructing primary ideas is the procedure of figuring out which data you may get right of entry to subsequent at the equal time such as compiling, coding, and statistical analysis in a theoretical sample [1]. A sample technique of principle determined in coding, in stages, via experiments [4].

The first process of negotiating a series of data is particularly without a surely theoretical framework in the trouble or location of problems. The method of records series a few components of the pattern are directed to the real requirements right away after the begin of testing and coding. On this take a look at, sample concept become modified in one-of-a-kind methods. In addition, the questions and the order of the questions have to have been modified based on a sample of concept, interviews and questions need to have been parented based completely on preceding responses. Charges from previous conversations have been used to get huge details from respondents. The previous few interviews have been carried out to confirm the records accumulated which include some new statistics because of the reality that the achievement of the theoretical doctrine has been considerably completed.

If the success of theology is completed, then a pattern teaching of the doctrine is received [2]. Finishing the principle is a factor in which no additional data are required for the researcher to proceed. Whilst there are ordinary periods of comparable information and this indicates that the researcher does no longer hear something new from the interviews or statistics collection [5], the records series may be suspended.

3.7 Information Analysis

Strauss is the basis of the theory used to research flawless data to bring which means and in the end to broaden the concept.

3.7.1 Constant Comparative Analysis

In basic conceptual research, regular assessment assessments are used as a controlled method for reading data. The purpose for this check is to note the similarities and differences that allow the inclusion of codes and technologies for instructions and thoughts. This approach is everlasting due to the fact the researcher has to head back to the start and maintain the analysis in every phase and the researcher can locate similarities and differences by coding all of the sections. The researcher need to frequently participate inside the technique of studying, comparing, and extracting records from facts.

3.7.2 Coding

The bridge among information collection and manufacturing concept encapsulates. It's far the spine of critical analysis [17]. Together with Corbin and Strauss the research should start by way of entering open codes and then inserting the authentic axial coding from open text and decided on code. Phrases, statements, and phrases are used to insert open codes from the gathering of data to beautify the ideas. Until the achievement of the doctrine, the ones indicators are continuously compared with the information gathered to inform new understanding [18].

3.8 Producing Idea

Intellectual time relies upon at the levels of the concept and we recognize what the institutional facilities are. That ideas want to be built before growing a contradictory

intention with the help of Glaser and Strauss (1967). On this type of case, the researcher has to locate the whole thing this is crucial and that speed paintings leads to the generation of the above things they are saying. Suitable after the production of ideas and created levels and instructions are involved in developing a ultra-modern angle, and imaginative and prescient era is the following stage. It may often be tough to provide idea, thoughts, and categories with the information amassed. Corbin and Strauss defined that from the information gathered, it is very crucial to write down the memo to get the most vital ideas with the intention to help to formulate suitable values, lessons, and ideas [1]. Corbin and Strauss argued that the idea ought to even come from an extramarital affair and that studies should become aware of regions and produce thoughts based totally on it. Data include statistics collection, coding, and mathematical tests inside a simultaneous way of making experience.

The only part of understanding the complete system from analysis.

3.9 Analytics of the users

Figure 3.9.1

Output of the overall Analyzation of questions

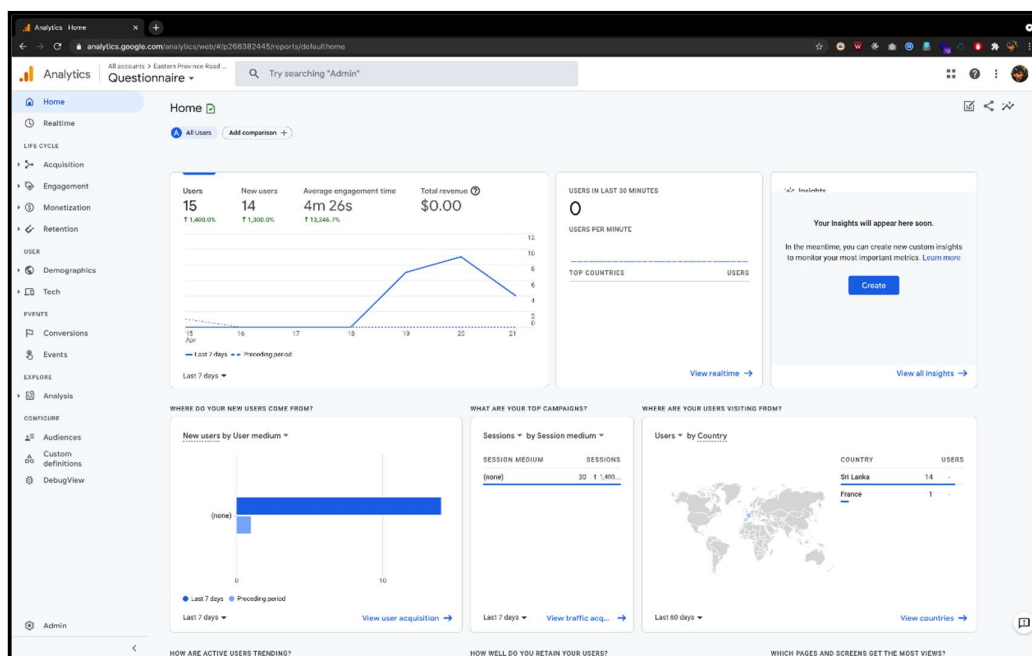
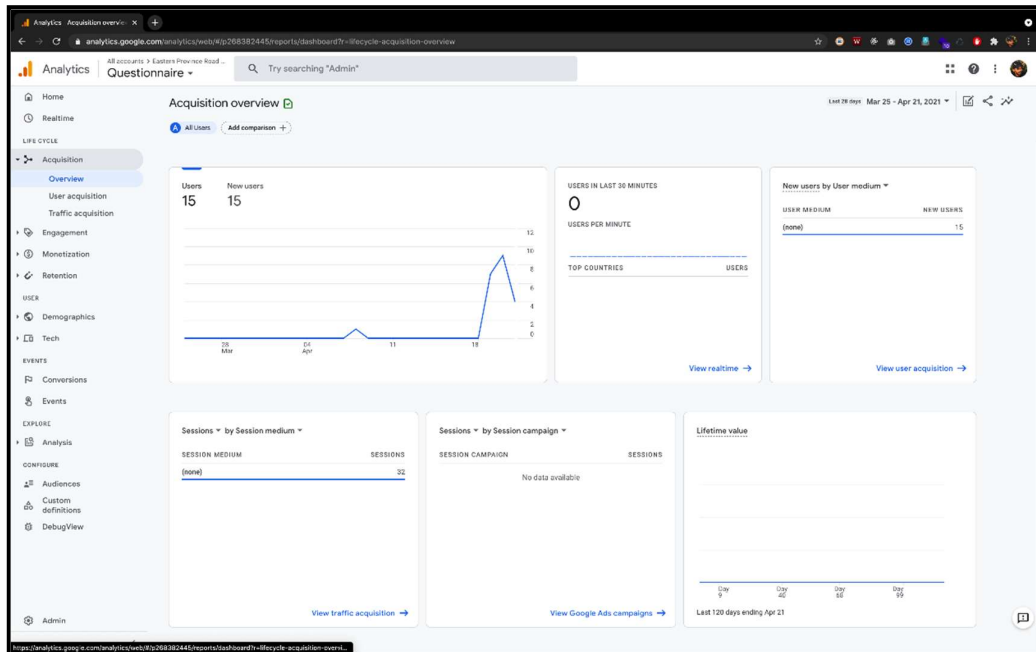


Figure 3.9.2

Output of the active users



3.10 Summary

Qualitative evaluation has been used based on interviews and on-line records series to acquire information and identify critical factors affecting public bus transport in Eastern Province. To guide the collection and coding of interview facts to become aware of rising classes and to generate crucial factors to be considered, we accompanied a Straussian grounded-concept layout. Related work became utilized to get the course of the research, discover variables, and shape the questionnaire for interviews. To pick out expected classes, the set of interview questions changed into used after which derived. Then a difficult and fast of decided on passengers in selected routes had been determined on for the evaluation. Respective humans have been then interviewed for every direction and each high-quality historical beyond. Records accrued from the interview have become analyzed via coding, categorizing, evaluating, of the interview responses. Important elements that have an effect on the delivery call for had been ultimately derived via facts assessment.

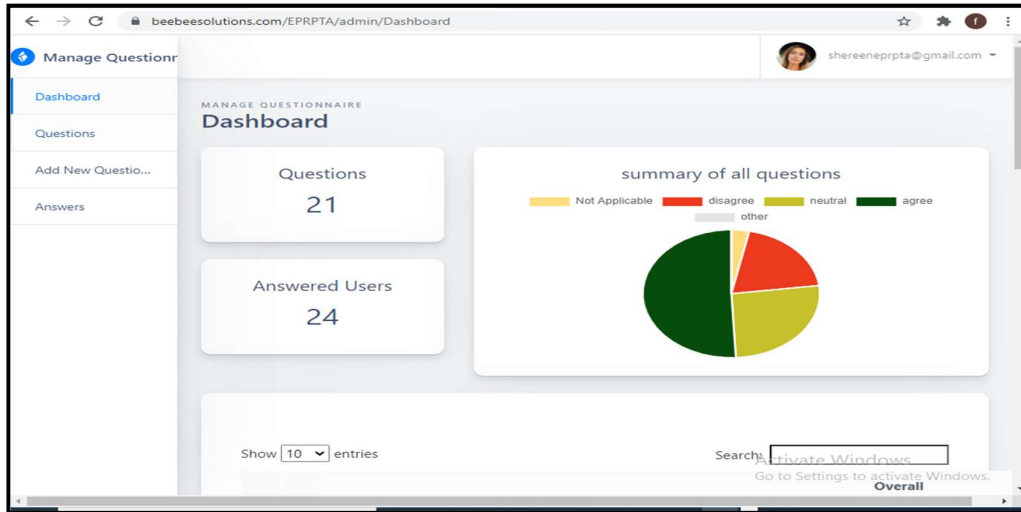
4. RESULTS AND EVALUATION

4.1 Overview

This chapter consists the statistical analysis combined with the pool of data through a questionnaire web portal. Obviously twelve routes are analyzed through the survey. Almost 4 long distance routes and 8 short distance routes were analyzed. This studies uses the grounded theory, which is useful in qualitative facts assessment.

Figure 4.1

Output of the overall Analyzation of questions



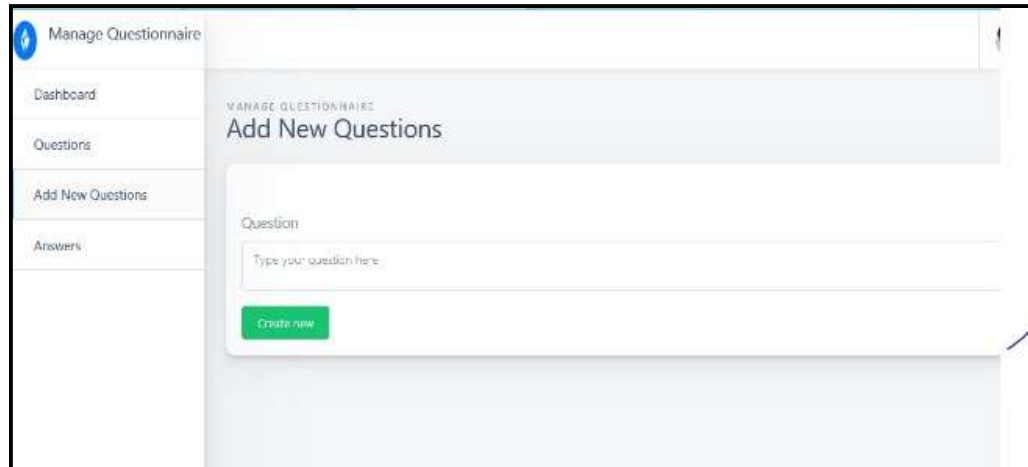
Web portal consists with questions and in which any consumer also can login here, this research used to gather records and initially based on grounded principle used to the analyzation [18]. In spite of the fact that most conversations had been finished via an internet portal, few were completed over the telephone. After the preliminary interview, the crucial factor phrases and terms were extracted. Primarily based at the comments, the researcher needed to alternate, add and delete a difficult and fast of questions and trade the gathering the usage of regular comparative evaluation [27]. The coding have become generated based absolutely at the open coding gathered from the accrued data and, ultimately, the important categories (coding determined on) have been eliminated after evaluation of that coding. A scale of 0 to a few has been used to check and verify coding and final instructions.

The researcher issues on the facts accrued or inquire approximately the routes to determine whether or not or not now they were in settlement with those instructions that achieved extra than 50% as agreed and unbiased were labeled as an attention even as new routes had been analyzed. Based totally completely totally on this method, it have grow to be decided that a hard and fast of impartial and screening training listed in figure 4.1 were the primary issues for some passengers with one-of-a-type routes. Form of canvassing, purpose onlookers, timing, degree and mode of conversation, belongings, and organizational imperatives are the six self-reliant calculate diagnosed

controlling additives are degree suggestions and controls in addition to commercial enterprise boundaries with particular routes.

Figure 4.2

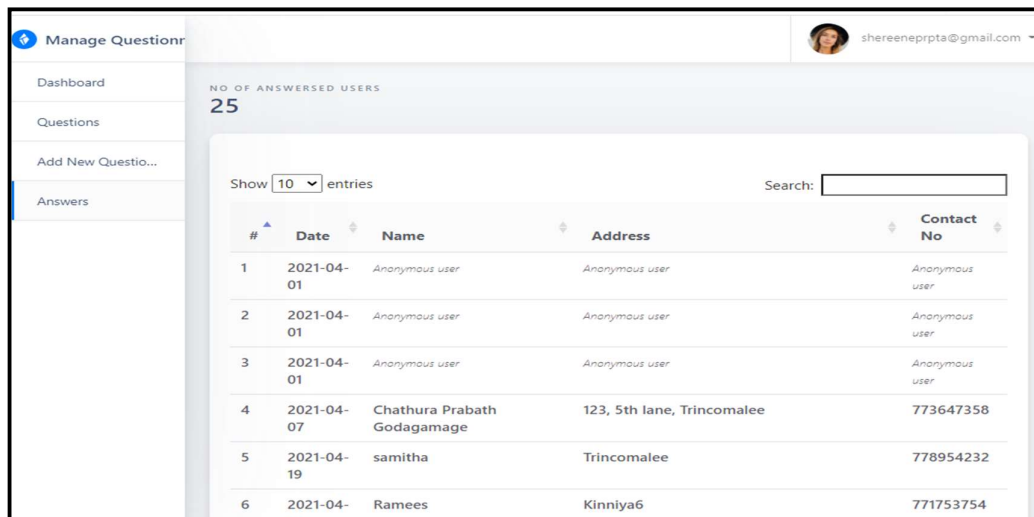
Inquiries to passengers



The screenshot shows a web application interface for managing questionnaires. On the left is a sidebar with navigation links: 'Dashboard', 'Questions', 'Add New Questions', and 'Answers'. The main content area is titled 'MANAGE QUESTIONNAIRE' and 'Add New Questions'. It features a text input field labeled 'Question' with a placeholder 'Type your question here' and a green 'Create new' button below it.

Figure 4.3

Answer papers



The screenshot shows the 'Answers' section of the 'Manage Questionnaire' interface. The sidebar on the left has 'Answers' selected. The main content area shows 'NO OF ANSWERED USERS' as 25. Below this is a table with columns: '#', 'Date', 'Name', 'Address', and 'Contact No'. The table displays 6 entries. Above the table, there is a 'Show 10 entries' dropdown and a search bar.

#	Date	Name	Address	Contact No
1	2021-04-01	Anonymous user	Anonymous user	Anonymous user
2	2021-04-01	Anonymous user	Anonymous user	Anonymous user
3	2021-04-01	Anonymous user	Anonymous user	Anonymous user
4	2021-04-07	Chathura Prabath Godagamage	123, 5th lane, Trincomalee	773647358
5	2021-04-19	samitha	Trincomalee	778954232
6	2021-04-	Ramees	Kinniya6	771753754

Figure 4. 4

Different Answer scripts

The screenshot shows the 'Manage Questionnaire' interface. On the left is a sidebar with navigation links: Dashboard, Questions, Add New Questions, and Answers. The main content area is titled 'MANAGE QUESTIONNAIRE Answer Papers'. It displays the following information:

- Name : shereenprpta@gmail.com
- Contact No : 714151416
- Address : 40 trincomalee
- Submitted Date : 2020-04-30

Below this information is a question: '1) The routes you travel gives quite comfortable services'. There are five radio button options: 'Not Applicable', 'Disagree' (which is selected), 'Neutral', 'Agree', and 'Other'. At the bottom right, there is a note: 'Activate Windows. Go to PC settings to activate Windows.'

Figure 4. 5

Case Evaluation by each question



Table 4. 1

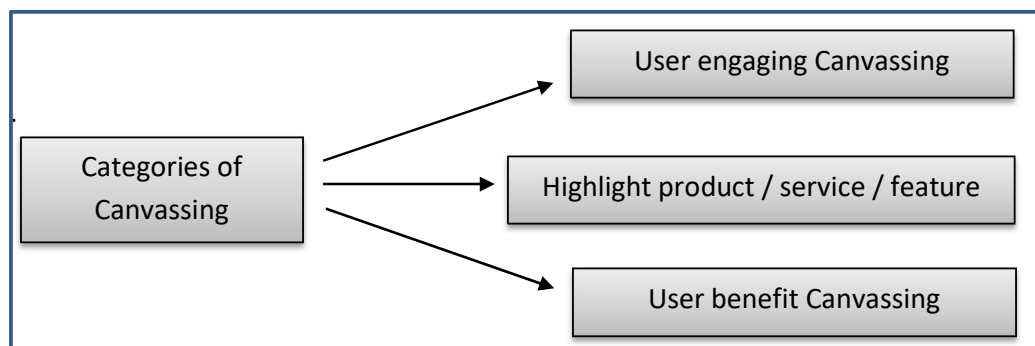
Independent and controlling factors

Independent	Controlling	Dependent
Type of canvassing	Platform rules and regulations	a success passengers increment and stay at EPRPTA
Target spectators	business enterprise constraints	
Timing		
Platform for verbal exchange		
Approach of communication		
Wealth budget and fees professional guide		

When assigning a route for a particular place, different type of canvassing was used, this is depending on many more types of passengers who engage with travelling and bit of them were to involve with higher user engagement. When analyzing the passengers daily travelling, they expect a reduction of the amount of the ticket, here higher passenger's engagement with 12 different routes, got into study to notice products, services or features.

Figure 4. 6

Categories of canvassing to be considered



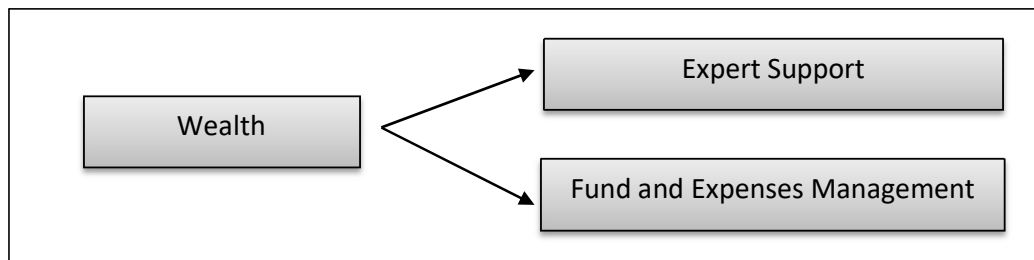
People do not have to lock themselves in the same situations for long periods of time and expect unpaid payments often to get involved. In the same way, long-term jobs can also vary from time to time. Daily trips and general business with very little compulsion.

Businesses think that high tourist engagement, which is honestly shared with them in one of the species, needs to be transferred at the same time because the herd is linear and strong (Schaffer, 2016). The rest of the trip says Friday night and weekend are the times with the most numbers available. In addition, the times of night time (6 pm - 11pm) and morning (6 am 8 am) are times when people with a lot of information come in for a visit, more often than not as a place of work and leisure time. People associated with the program in the middle of the morning are just as likely to return home. Finally, as the installation where the 4.5 is determined by using people do not want to move the interior and the same types of long-term and that they are subject to the recurring use in the inclusion of mobility. In the same way, long-term groups can also vary over and over again. Visits with regular and regular daily groups may be much needed.

But for the necessary assets, we have divided the categories of "professional support" and "financial and cost management" under the largest category of "resources". Figure 4.8 appears

Figure 4. 7

Wealth to be considered



Few things can be seen and labeled under compulsive motives that include travelers' comfort strategies and should be eliminated by asking, making plans, getting into childhood, attracting clients, and engaging advertising and marketing purposes in anticipation of a well-known business to make the right product, earnings, or professional advertising. It uses a variety of techniques to find unfamiliar territory by deviating, asking questions, and allowing clients to search for facts. This visitor continues to allow users to be reminded of the combination of items, deception, and highlighting through the ability to report responses, participate, or submit deals [22] The number of targets set by energy customers can also be categorized as one of the general operational requirements.

Test Report

Eastern Province Road Passengers Transport Authority Questionnaire Web Portal Test Report

Table 4.2

Table of Testing Report

Eastern Province Road Passengers Transport Authority - Questionnaire Web Portal Test Report		
Date	2021-04-21	
Server	https://beebeesolutions.com/EPRPTA/	
Test #	Description	Status
Test_1	Go to home screen when we click the link	pass
Test_2	Show login screen	pass
Test_3	Login as anonymous user	pass
Test_4	Login as detailed user	pass
Test_5	Show questions	pass
Test_6	Submit answer of the question	pass
Test_7	Show feedback window when we press other as answer	pass
Test_8	Hide feedback window when we not select other	pass
Test_9	Can answer all questions	pass
Test_10	Display Thank you message after submitting the answers	pass
Test_11	Show remaining and answered question count	pass
Test_12	Translate pages to Sinhala and Tamil	pass
No of tests		12
Pass Count		12
Fail Count		0

4.2 Summary

We conducted a web navigation study with twelve transport guides with four long-distance guides and 8 long-distance guides. As soon as the first meeting is over, keep some simple phrases and phrases and open the code and memos are called based on it completely. The same old comparative check used for brief consultation continued and was transformed into what became necessary to manage, compile, and a set of questions and manage a time table to touch later in another meeting. Responses from remote areas interviews have been used to request another fabric that works for respondents. The analyst needed to find the combined records of the specialist and it is difficult to distinguish whether they agree with those classes. Varieties, which have grown to more than 50% as agreed and non-discriminatory, have emerged as things to consider in the media. There has been a crowd of open-minded and open-minded analysts and they can find that flexibility to be considered and people is a way to seek power, sensible viewers, time and communication space, resources, platform, and organizational boundaries

Table 4. 3

Coding for the ability to measure performance.

Analyzed Coding	Axial Coding	Open Coding
Capacity to calculate overall performance	excessive no of involvement	more than 50 new ideas shared person engagement multiplied number of likes cannot measure the success of the some campaigns
	sales increment for the duration of the length	boom leasing sales on buses by way of bus owners increasing the wide variety of on line bills
	queries from the client	many queries from the purchaser personal messages call center inquiries district office-level inquiries

5. CONCLUSION AND FUTURE WORK

This take a look at identifies such elements via a vigilant investigation of twelve selected transport routes on web using the E P R P T A routes. We recognized that the form of the passenger, target spectators, timing, platform for conversation, mode of conversation and assets have an immediate superb effect at the fulfillment. Moreover, guidelines and regulations associated with the online platform and present company constraints have a slight effect.

Several kinds to spotlight products, offerings, or functions. When delivery is achieved normally goal teens, teens with age between 18to 35 years of age, young middle-aged adults with age between 35 to 45 years of age, and hobby organizations such as film fanatics, car fanatics, etc. It's miles seen that there are unique varieties of interest groups interacting on is the quality manner to attract them.

Timing is one of the essential elements that want to keep in mind. Timing is a mixture of a set of various factors along with period of the promotion, period, fine day(s) of the week, and excellent the day. Human beings do no longer like to have interaction with the identical bus for a long time. For this reason, they expect new things even if the campaign is the equal. Clients expect distinct posts which includes converting pics, videos, and content material. Researchers consequently must be for a quick time various from every week to a month. There's excessive person engagement all through competition seasons and current seasonal trips. The satisfactory length for the income, consequently, is visible to be seasons and cutting-edge social traits. Despite the fact that they are based totally on seasonal cutting-edge trend and for a shorter time period, authorities also want to recollect about excellent days and time of the day to provide their maximum service and maintain in touch. Pictures are the great mode of communication and video comes subsequent because of bandwidth barriers. Human beings have a tendency to engage more with images and videos, and mainly when they may be inside the local language. But, the nice mode of conversation relies upon on the campaign. Panorama photographs are discovered to be greater powerful. Films related to the existence and motivation get higher person interactions than another.

The take a look at further identified that the price range, fee management, and professional aid are some of the elements to be considered beneath resources. Moreover, it's far essential to have ok get admission to computer systems and the net for a successful campaign.

The price to market on media is a good deal less than for advertising on mass media. But, the authority still must spend money for expert support on media advertising, artwork creations, and giveaways. Several factors will be identified on how authority can get help from third party companies to market advertising on media. Authority can get assist to generate thoughts for the merchandising campaigns as third-celebration groups have the problem professionals. Moreover, it can growth attraction, visibility, and person engagement for the promotion campaigns with the support of outside information from such carrier presents. It's far observed that the authority focuses more on mass media campaigns than media advertising. Consequently,

professional aid must be applied to create an effective media marketing plans. Moreover, information evaluation by means of media marketing offerings offer useful perceptions for authority on purchaser demographics, interests, and engagement techniques. It became discovered that many governments want to begin media facilities. Therefore, studies and improvement has to be completed in extraordinary regions of tactics with third party agencies to provide more advantages to customers and to benefit aggressive gain.

We additionally recognized several motivational factors to behavior along with to create cognizance of the products, offerings, and functions offer; to acquire future desires of the government to attract target spectators; to advantage bottom to pinnacle influence by way of attracting teenagers, and to draw more customers and increase income. Furthermore, there are some metrics that may adopt to measure the performance of a promotional marketing campaign such as high person engagement, number of queries (as a remark, private messages, a call middle and district office stage), and income increment at some point of the length.

In destiny machine can be updated to on-line prestiges with upgraded facilities every time to have a look at this questionnaire at the same time as ongoing inquiries analyzation.

5.1 Research Limitations

The coming up barriers can be recognized related to this studies. The take a look at handiest focuses on the Eastern province, which has a good mix of and private delivery. Moreover, this research-based totally on long and brief journeys bus carrier satisfactory development and it does now not do not forget CTB bus carrier, it regulated by means of street passengers delivery authority of Eastern P rovince which lengthy distances non-public bus regulated with the aid of countrywide shipping fee. Under this observe, in particular recall improving the first-rate of offerings through passenger's notion and the trouble of the regulator to make appropriate ideas to suggest a structure.

Critical to constructing primary ideas is the procedure of figuring out which data you may get right of entry to subsequent at the equal time such as compiling, coding, and statistical analysis in a theoretical sample [1]. A sample technique of principle determined in coding, in stages, via experiments [4].

The first process of negotiating a series of data is particularly without a surely theoretical framework in the trouble or location of problems. The method of records series a few components of the pattern are directed to the real requirements right away after the begin of testing and coding. On this take a look at, sample concept become modified in one-of-a-kind methods. In addition, the questions and the order of the questions have to have been modified based on a sample of concept, interviews and questions need to have been parented based completely on preceding responses. Charges from previous conversations have been used to get huge details from respondents. The previous few interviews have been carried out to confirm the records accumulated which include some new statistics because of the reality that the achievement of the theoretical doctrine has been considerably completed.

If the success of theology is completed, then a pattern teaching of the doctrine is received [2]. Finishing the principle is a factor in which no additional data are required for the researcher to proceed. Whilst there are ordinary periods of comparable information and this indicates that the researcher does no longer hear something new from the interviews or statistics collection [5], the records series may be suspended.

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Appendix - A: Selection of Factors

0 - Not Applicable

1 - Disagree

2 - Neutral

3 – Agree

4- Other

S1-S4 -4-long trips buses

S5 ...S12 – 12 – short trip buses of passengers were questioned

The Equation

$$\text{Total Percentage} = \frac{\text{No of occupied Organization}}{\text{Neutral Organization} \times \text{Total No of Organization}} \times 100$$