Journal of Positive School Psychology
2022, Vol. 6, No. 3, 2869–2879 http://journalppw.com

An Exploratory Research on Service Quality of the Urban Public Transport Companies and Sustainable City Logistics

[1] Kavita Sharma, [2] Sachin Sharma

[1] University School of Business, Chandigarh University, Mohali, Punjab, India
[2] School of Management Studies, CT University, Ludhiana, Punjab, India
Email: [1]kavita.e10427@cumail.in, [2]sachin.17010@ctuniversity.in

Abstract

Purpose: The aim of this article is to provide an assessment of the results of primary research conducted on the quality of service provided by urban public transportation companies and sustainable city logistics in India.

Methodology: The paper is primary in research. Primarily, survey with a representative sample of 277 respondents were conducted for the purpose of gathering information for the main study. To examine the data, a variety of statistical approaches, namely,descriptive statistics, Exploratory Factor Analysis and Confirmatory Factor Analysis applied.

Findings: According to the findings of this study, respondents are more satisfied with the level of service quality provided by urban public transportation companies, whereas specific service quality characteristics are also seen differently by different employees of the companies related to sustainable logistics. According to the study, customers-orientation and environmental monitoring have significant influence on urban public transportation companies. According to the existing study, public transportation providers should take into account the needs of various passenger while determining fares.

Originality: The existing research will provide wide scope to the researchers and practitioners to carry out a comprehensive analysis on sustainable logistics withurban and rural public transport for future research.

Keywords— environmental monitoring, influence, public urban transport, service quality, sustainable city logistics

I. INTRODUCTION

This century has also seen a dramatic shift in mobility needs due to the changing corporate environment and population development. As a result, individuals were no longer able to go outside of their towns and cities, but were instead restricted to their own urban areas, However, the continents' frameworks were shifted and intercontinental overlap developed as a result of mobility. Passenger and freight transit performance is steadily improving. Cities and urban agglomerations face increasing demand on their transportation infrastructure and logistics. These developments are equally crucial for the twenty-first century, a time in which current information and communication technologies are likewise undergoing a fundamental evolution, shifts in consumer buying habits and shifting mobility requirements. As the number of people driving their own cars increases in cities and urban agglomerations, driving speeds drop, public transportation services become more irregular, and passengers experience frustrating waits(Stopka, Bartuska and Kampf, 2015). Numerous academic papers have shown the environmental, economic, and social consequences of globalisation, urbanisation, and excessive individual automobile use in metropolitan areas(Haghshenas and Vaziri,

2012). Road infrastructure safety, air pollution, traffic noise, and global warming are just some of the issues that arise as more people drive their own cars; It takes a significant amount of money and time to build new road infrastructure and the accompanying transportation equipment; Parked vehicles are a hindrance to those on foot, on bicycles, and in wheelchairs(Stopka, Bartuska and Kampf, 2015). One of the study outlined the interplay between business, the environment, and humankind as the primary obstacles to fast global urbanisation(Riffat, Powell and Aydin, 2016). While economic effect is important, Birkin and Polesie stressed the need of adopting methods and behaviours that are social and environmental resilient(Bartelmus, 2010). City and global environments face the biggest challenges today not just in decreasing greenhouse gas emissions and pollution but also in enhancing the quality of life for residents(Vardoulakis and Kinney, 2019). Urban sprawl and the decentralisation of communities are both exacerbated by traffic, but the promotion of environmentally friendly forms of transportation is essential, because city people have the option of using one of these environmentally friendly forms of transportation(Stopka, Bartuska and Kampf, 2015). With regard to sustainable city logistics, this article focuses on the quality of service provided by the city's public transportation providers in the specified urban area. Its purpose is to assess the level of service provided by the metropolitan public transportation firms in this area, and to highlight certain shortcomings in this area from the standpoint of sustainable city logistics. The following is the structure of the paper: Section 1 includes the introduction to the issue and justifications for the research effort given in this study are included inside section. Section 2 provides an overview of the theoretical foundations in the fields of city logistics challenges and public transportation services, respectively. Section 3 explains the procedures that were employed in the research study for data collecting and data analysis, as well as the results of the research. The findings and conclusions of the study are presented in Section 4. Section 5 examines the findings and offers a comparison between the findings and previous study in the field (i.e., existing literature). As a conclusion, the article offers suggestions for potential applications in sustainable urban logistics.

II. REVIEW OF LITERATURE

Limited resources and inadequate infrastructural capacity must be addressed by cities, which must create solutions(Peter and Swilling, 2012). Kauf(2016) utilises the phrase "sustainable city logistics" to refer to the area of city logistics that is critical to long-term urban sustainability(Kauf, 2016). Achieving sustainable urban transportation is seen as a precondition for implementing the notion of sustainable city logistics by the majority of authors(Cheba and Saniuk, 2016). According to some researchers, optimising intra-city transportation may help to thelong-term sustainability and profitability while also relieving infrastructure congestion and reducing emissions and noise(Viu-Roig and Alvarez-Palau, 2020). Many fields of study are now looking at how to best implement sustainable city logistics. The utilisation of new sources of information to provide sustainable transportation networks in cities and urban agglomerations presents new problems and possibilities for city logistics(Ogryzek, Kmiec and Klimach, 2020). The use of big data for in-depth research to plan and optimise sustainable city logistics is also promoted by other sources(Bibri, 2019). Other authors stress the importance of decision support systems and tools in addressing city logistics problems since without them, it is hard to come up with an ideal solution(Yigitcanlar *et al.*, 2019) ; (Toli and Murtagh, 2020). Logistics in the city are becoming more difficult as a result of urbanisation and e-commerce(Schöder, Ding and Campos, 2016). There are several issues facing city logistics today, including e-commerce and its impact on the transportation network in and around agglomerations(Bosona, 2020). The purpose of city planners is to establish the optimum grading system for

sustainable city development(Al-Zoabi and Jarrar, 2016). In cities, public areas and social connections are intertwined and mutually dependent. City settings influence social activity because of this connection(Latham and Layton, 2019). Development nations place a high value on urban planning and water quality preservation since both are essential to a country's long-term social and economic progress(Cosgrove and Loucks, 2015). Sustainable city logistics has been the subject of several studies, with a wide range of possible solutions. a greater use of low-energy and low-emission vehicles for last-mile delivery(Mucowska, 2021); Given the overall performance obtained by all modes of transportation, a greater proportion of co-modal travel(Naumov *et al.*, 2020); roadways, city centres, or particular zones may be charged based on their usage; the improvement of transportation infrastructure and the reduction of emissions from automobiles(Guo *et al.*, 2020); Traveling in a more environmentally friendly manner. According toStopka, et.al., (2015), limits on the use of automobiles and favourable conditions for the use of ecologically friendly forms of transportation should be addressed,in order to make urban public transportation and cycling and pedestrian traffic more competitive and favoured over private automobile transportation, and because of the tremendous dissemination of these solutions. For individuals, walking and cycling are essential components of sustainable and resilient communities and towns(Tight, 2016). As a result, metropolitan public transportation networks and services play a critical role in promoting sustainable growth in our communities and sustainable logistical systems(Mosaberpanah and Khales, 2013). Several management methods may be used by public transportation firms in order to enhance their environmental performance. An intriguing solution is one that allows for the formation of new partnerships and value network reconfigurations capable of enhancing efficiency. In order to deliver greater service and efficiency, public transportation services address sustainable challenges to combining environmental "eco-efficiency" and social sustainability by including all stakeholders. Encourage clients to use public transportation by highlighting the benefits of doing so in terms of the environment(Lopez, Ruiz-Benítez and Vargas-Machuca, 2019). Improving public transportation's quality and responsiveness to customer needs is one answer, but only if the whole transportation system as a whole is improved. Public transportation networks in the agglomeration context may be considered as a dynamic system, according to many research(Fang and Yu, 2017). However, the real issue is overcoming the habit of driving one's own automobile, and one approach is to use public transit or car-sharing services instead(Alyavina, Nikitas and Tchouamou Njoya, 2020). However, the real issue is overcoming the habit of driving one's own automobile, and one approach is to use public transit or car-sharing services instead(White, Habib and Hardisty, 2019). Providing high-quality public transportation services is critical to the success of sustainable city logistics, which is why this topic is often debated(White, Habib and Hardisty, 2019). There are two dimensions to service quality, according to Parasuraman and co-workers [51]. Service quality may be defined as the gap between the customer's expectations and their perceptions that happens throughout the service process, which is part of the exchange and long-term sustainable service business model(Enquist, Edvardsson and Petros Sebhatu, 2007). However, this does not indicate that a service provider must satisfy the client's demands; rather, it means that the customer's expectation is something the customer wants to be supplied by the service provider in a long-term way(Angelova and Zekiri, 2011). An intangible collection of criteria may be used to determine the quality of public transportation services for passenger transportation(Güner, 2018); (Riffat, Powell and Aydin, 2016).

Research shows that passengers value overall time, comfort and cleanliness, accessibility of the service and information, service organisation and safety, conductors' behaviour and expenses, i.e., the fee, more than any other

quality factor, according to passengers' perceptions of service quality(Shen *et al.*, 2016).

III.RESEARCH GAP

After thorough assessment of prior studies on Urban public transportation it was found that there is no study that aims and measure "Service quality of the urban public transport companies and sustainable city logistics." Therefore, existing research made an effort to fill the gap and conduct an analysis of service quality of the urban public transport companies and sustainable city logistics and extracted variables based on prior studies for existing research, namely, service quality, Accessibility, Information sharing, timely delivery, customer-orientation, safety,environmental monitoring adapted from 54,56.

IV. RESEARCH QUESTIONS

- What are the factors influencing the quality of service of the urban public transport companies to ensure sustainable city logistics?
- What are the results of the evaluation of the quality of service of the selected factors in urban transport companies and sustainable city logistics?
- Which factors were considered the most important and least important in urban transportation firms and sustainable city logistics?

V. OBJECTIVES OF THE STUDY

- To identify the factors influencing the Service quality of the urban public transport companies.
- To assess the relationship of identified factors of urban public transport companies with sustainable city logistics.
- To proposed a conceptual framework to indicate the relationship of urban public transport companies and sustainable city logistics.

VI. HYPOTHESIS OF THE STUDY

- H01: There is no relationship among factors of service quality of urban public transport companies with sustainable city logistics.

Ha1: There is relationship among factors of service quality of urban public transport companies with sustainable city logistics.

- H02: There is no relationship among factors of accessibility of urban public transport companies with sustainable city logistics.

Ha2: There is relationship among factors of accessibility of urban public transport companies with sustainable city logistics.

- H03: There is no relationship among factors of information control of urban public transport companies with sustainable city logistics.

Ha3: There is relationship among factors of information control of urban public transport companies with sustainable city logistics.

- H04: There is no relationship among factors of customer-orientation of urban public transport companies with sustainable city logistics.

Ha4: There is relationship among factors of customer-orientation of urban public transport companies with sustainable city logistics.

- H05: There is no relationship among factors of environmental monitoring of urban public transport companies with sustainable city logistics.

Ha5: There is relationship among factors of environmental monitoring of urban public transport companies with sustainable city logistics.

VII. RESEARCH METHODOLOGY

The present study carried out using exploratory analysis, which practices three rounds of internal screening conducted by the researchers in the current study. Firstly, the most critical articles on recent developments of Service quality of the urban public transport companies and sustainable city logistics were selected. The researchers created a flowchart (mentioned in Figure 1) to show their procedures for selecting papers. Second, A survey performed among the employees as respondents of 277 of urban transport companies' logistics department to facilitate the identification of important factors concerning to Service quality of the urban public transport companies and sustainable city logistics. Finally, after assessing both the

outcome of former rounds, the conceptual framework for the existing research developed (Fig 2).

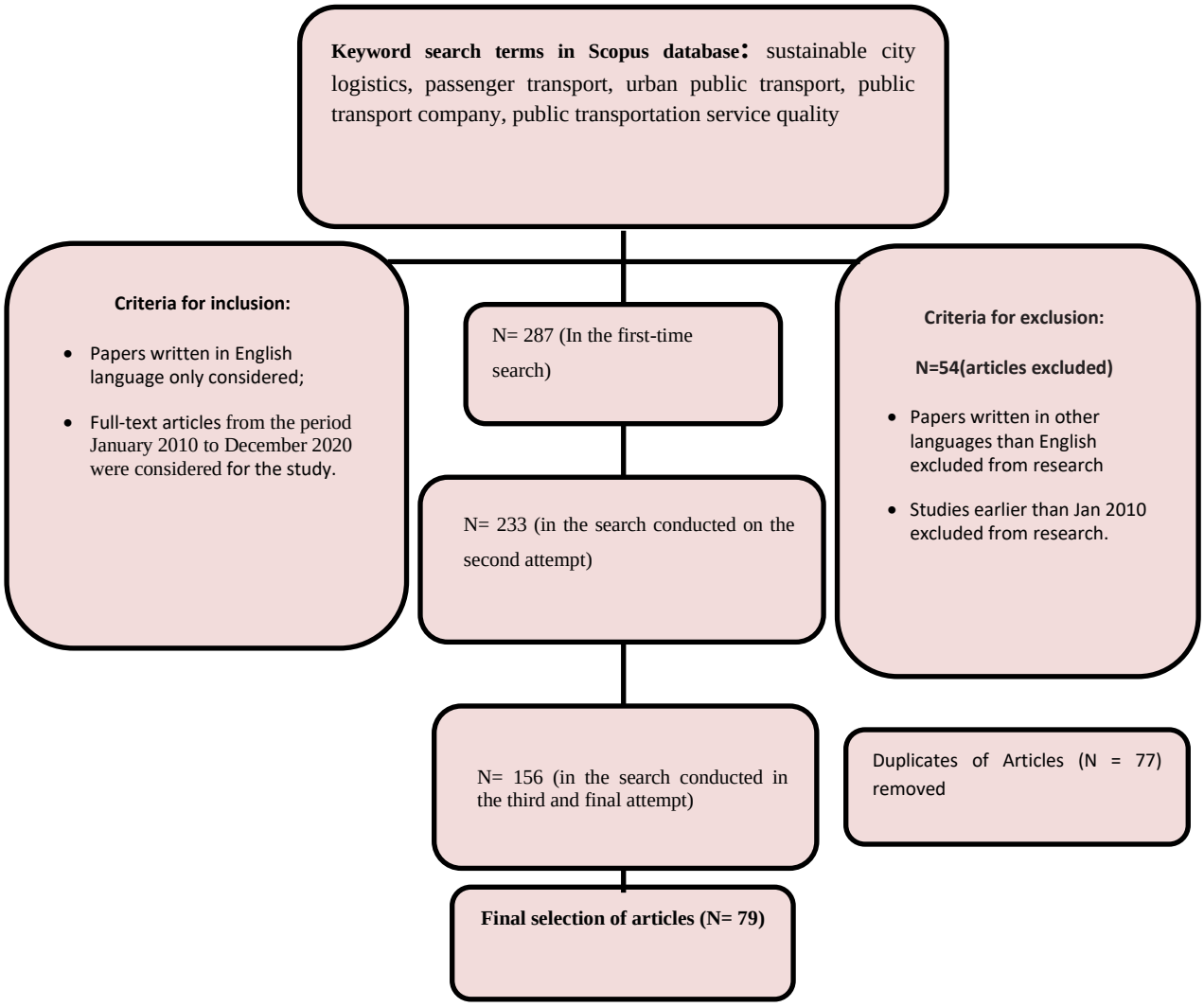

Figure 1: Flowchart Presentation of Selection of Research Articles

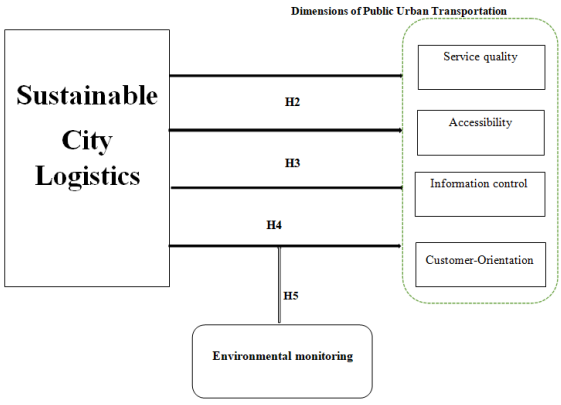

Figure 2: Conceptual Framework of Impact of Public Urban Transport on Sustainable Logistics

VIII. RESULT AND DISCUSSION

Table 1: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.896	18

Table 1,documented a study and stated the assessment of reliability statistics of the study and found that the estimated value of Cronbach Alpha is .896 (N=18), which is greater than the acceptable threshold limitof .60. Therefore, the reliability statistics documented the presence of internal consistency among the variables and thereby led to perform further comprehensive quantitative analysis.

Table 2: Descriptive Statistics

Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Reliability	277	1	5	4.34	.642
Consistency	277	1	5	4.36	.664
Timely Delivery	277	1	5	4.34	.723
Dependability	277	1	5	4.41	.668
Responsiveness	277	1	5	4.18	.767
Material Handling	277	1	5	4.39	.630
Inventory Management	277	1	5	4.22	.765
Packaging and distribution	277	1	5	4.27	.720
Availability of accurate data	277	\ 1	5	4.40	.661
Integrity of information	277	1	5	4.36	.654
Confidentiality	277	1	5	4.29	.683
Non-Repudiation	277	1	5	4.19	.709
Customer satisfaction	277	1	5	4.13	.867
Customer retention	277	1	5	4.01	.927
Toxic waste	277	1	5	3.78	1.094
Air quality	277	1	5	4.13	.851
Energy use	277	1	5	4.02	.911
Water scarcity	277	1	5	3.82	1.060
Valid N (listwise)	277				

Table 2,documented a study and stated the assessment of descriptive statistics and identified that “Dependability” (Mean= 4.41 and Standard Deviation=.668) considered to be the most important Urban transport goods that influence sustainable logistics followed by “Availability of accurate data” (Mean= 4.40 and Standard Deviation=.661). The factor “Toxic waste” considered to be the least important factors perceived by employees of logistics department. Therefore, the descriptive statistics made an important observation that Urban transport goods factors dependability and availability of accurate data are the two prime determinants influencing sustainablelogistics.

Table 3: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.815
Bartlett's Test of Sphericity	Approx. Chi-Square	3048.450
	Df	153
	Sig.	.000

Table 3, depicted the component analysis that was shown to be legitimate by demonstrating its validity using the results of the KMO and the Bartlett test of sphericity. The Kaiser-Meyer-Olkin (KMO) test, which employs two observed variables to analyse a third seen variable, may be used to determine if a sample size is enough.An overall sample size of 277 participants was used in the study, which was large enough that statistical analysis can be performed, however, the results of the Bartlett test of sphericity are also available, and they were determined to be statistically significant.The employment of KMO test statistics serves the aim of assessing a broad range of values, from 0 to 1. The KMO test

produces a result with an accuracy of more than 0.50 (n=.815 in the case of present KMO output), and as the value increases, the results improve. Statistical analysis revealed that the sample size was sufficient and that the variables exhibited a significant relationship, which allowed for the construction of the factors to be determined.

Table 4: Principal Component Analysis

Total Variance Explained						
	Initial Eigenvalues			**Extraction Sums of Squared Loadings**		
Components	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
Reliability	6.819	37.881	37.881	6.819	37.881	37.881
Consistency	2.082	11.564	49.445	2.082	11.564	49.445
Timely Delivery	1.397	7.758	57.204	1.397	7.758	57.204
Dependability	1.181	6.561	63.765	1.181	6.561	63.765
Responsiveness	1.029	5.716	69.481	1.029	5.716	73.29
Material Handling	.740	4.111	73.593			
Inventory Management	.720	4.003	77.595			
Packaging and distribution	.657	3.652	81.248			
Availability of accurate data	.598	3.322	84.570			
Integrity of information	.531	2.949	87.519			
Confidentiality	.504	2.797	90.317			
Non-Repudiation	.457	2.541	92.858			
Customer satisfaction	.392	2.177	95.035			
Customer retention	.340	1.886	96.921			
Toxic waste	.278	1.544	98.465			
Air quality	.161	.895	99.360			
Energy use	.064	.354	99.714			
Water scarcity	.052	.286	100.000			
Extraction Method: Principal Component Analysis.						

Table 4, shows the factors and their factor loadings determined using a procedure known as factor analysis. It was possible to explain the greatest amount of variance in the data by using PCA to extract 18 components and rotating the data using the varimax method. The five factors accounted for 73.29% of the total variance. This data reduction technique resulted in the loss of a significant quantity of information, lowering the variance to 26.71 percent.26.71 percent of the variability was accounted for by the first component "Reliability," and 37.881 percent by the second component "Consistency," as determined by Eigenvalue analysis. "Timely Delivery" (6.561) and "Responsiveness" (5.716) together accounted for 11.564% and 7.758% of the total variance. More than 73.29% of the variance was explained by this combination of 18 variables, above the 60% criteria for significance.

Table 5: Exploratory Factor Analysis

Component Matrix[a]					
	Component				
Dimensions of Urban Transport Logistics	**Service Quality**	**Accessibility**	**Information Control**	**Customer-Orientation**	**Environmental monitoring**
Reliability	.642				
Consistency	.639				
Timely Delivery	.583				
Dependability	.629				

Responsiveness	.610				
Material Handling		.669			
Inventory Management		.633			
Packaging and distribution		.622			
Availability of accurate data			.637		
Integrity of information			.666		
Confidentiality			.677		
Non-Repudiation			.654		
Customer satisfaction				.570	
Customer retention				.572	
Toxic waste					.542
Air quality					.585
Energy use					.566
Water scarcity					.454
Extraction Method: Principal Component Analysis.					
a. 5 components extracted.					

From table 5,It may be concluded that the logical and effective reduction of 18 variables to five components was achieved. There are numerous factors that determine sustainable logistics, and the five basic aspects give a fair explanation for their effects on Urban transportation products. These data have been suppressed because loadings of variables below 0.4 were judged insignificant by the authors. Results showed that "Service Quality" was influenced by five distinct elements. When applied to the sample population, factor loading was.639 at the highest and.583 at the lowest. Accessibility was influenced by three criteria, all of which had varying degrees of significance. There were two factor loadings (the first and final values) set at.669 (Maximum loading) and.622 (Minimum loading), respectively. The "Information Control" category has four variables with observed values of.677 (Maximum loading) and.637 (Control information) (Minimum loading). The "Customer-Orientation" component was set to a maximum loading of.572 and a minimum loading of.570 (Minimum loading). The fifth component was made up of four variables with loadings between.454 and.585 (maximum loading) (Minimum loading).

Confirmatory Factor Analysis (CFA)

In the next step, it is critical to identify whether or not factors are related to their variables. In the confirmatory procedure, the accuracy of the measurement items is first assessed, and then the measurement model is calculated. To illustrate the relationship between the observed variables in a measurement model, a construct is used. Using PLS, it is possible to examine all associations in the model at once since there are so many variables involved.

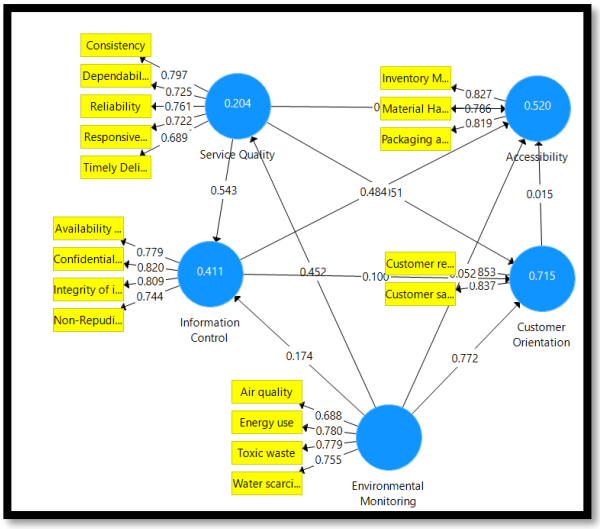

Figure 2: Partial Least Square

Table 6: Confirmatory Factor Analysis

Component Matrix[a]					
Dimensions of Urban Transport Logistics	Component				
	Service Quality	Accessibility	Information Control	Customer-Orientation	Environmental monitoring
Reliability	0.761				
Consistency	0.797				
Timely Delivery					
Dependability	0.725				
Responsiveness	0.722				
Material Handling		0.827			
Inventory Management		0.795			
Packaging and distribution		0.810			
Availability of accurate data			0.777		
Integrity of information			0.809		
Confidentiality			0.820		
Non-Repudiation			0.747		
Customer satisfaction				0.845	
Customer retention				0.844	
Toxic waste					0.748
Air quality					0.705
Energy use					0.801
Water scarcity					0.724
Extraction Method: Principal Component Analysis.					
a. 5 components extracted.					

Table 6, In order to better understand the structure of the measurement model, please see Table 3. Similar findings were found in the Factor Loading Analysis (EFA). Factor loadings bigger than those authorised in exploratory factor analysis are allowed in confirmatory factor analysis. Over 0.7 is the loading (except one). In general, model fit is considered satisfactory if the loadings are over 0.7, which is the threshold for acceptable model fit. Convergent validity was high when the factor loadings were greater than 0.70. It is allowed to use other goodness parameters as long as the measurement model converges.

Table 7:Reliability and convergent validity statistics of measurement model

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Accessibility	0.739	0.852	0.657
Customer-orientation	0.598	0.833	0.713
Environmental Monitoring	0.753	0.833	0.555
Information Control	0.797	0.868	0.622
Service quality	0.792	0.858	0.547

In table 7, Confirming the model's dependability and validity is critical once the preceding step has been completed. Cronbach's alpha is a metric for evaluating the consistency of a set of variables. It is assumed that the statements being administered all evaluate the same construct (i.e., the construct is unidimensional) and that observations are independent of each other when giving the Cronbach test. Using Cronbach's alpha, we may observe some interesting results in Table 4. Cronbach's alpha values ranged from.797

to.739, which is a very good result, even if we exclude the importance of customer-oriented variables (0.598).

Composite reliability is an additional, improved metric for assessing trustworthiness (CR). Factor score-based estimates are better than Cronbach alpha in terms of construct estimation, according to this study There is a range of acceptable CR values between.7 and 1. Construct CR should be more than 0.7 for the best results. According to table 4, the CR values of all four structures are more than or equal to 0.7. The CR for composite dependability was as low as 0.833 at the time.

Table 8: Descriptive Statistics

Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Service Quality	277	1	5	4.19	.709
Accessibility	277	1	5	3.78	1.094
Information Control	277	1	5	4.01	.927
Customer-orientation	277	1	5	4.13	.867
Environmental Monitoring	277	1	5	4.13	.851
Valid N (listwise)	277				

Table 8,documented a study and stated the assessment of newly formed variables descriptive statistics and identified that “Service Quality” (Mean= 4.19 and Standard Deviation=.709) considered to be the most important Urban transport goods that influence sustainable logistics followed by “Customer-orientation” (Mean= 4.13 and Standard Deviation=.867) and “Environmental Monitoring” (Mean= 4.13 and Standard Deviation=.851). The factor “Accessibility” considered to be the least important factors perceived by employees of logistics department. Therefore, the descriptive statistics made an important observation that Urban transport goods factors Service Quality and Customer-orientation are the two prime determinants influencing sustainable logistics.

IX. HYPOTHESIS TESTING

After applying Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) the findings of the study stated that there exist strong association among the factors of Service quality of the urban public transport companies with sustainable city logistics as KMO bartlett test value (.815) which is also close to 1 and also significant at .000. Also, in EFA cumulative value of total variance explained value is 73.29% which is greater than the acceptable thresholdlimit of 70%. Moreover, the assessment of CFA, value depicted that newly formed constructs Cronbach alpha value is greater than .60 and also in case of composite reliability is greater than .70. Therefore, null hypothesis (H01, H02, H03, H04 and H05) is rejected and alternative hypothesis (Ha1, Ha2, Ha3, Ha4 and Ha5 is accepted.

X. CONCLUSION

Cities need innovative, long-term logistical solutions to meet the demands of the on-demand economy in the realm of public transport. These solutions must be environmentally friendly. Service Quality is a possible strategy for ensuring the long-term viability of urban public transportation systems. Using data from India's public urban transportation system, this research examines the economic and environmental consequences of a service-based sustainable logistics system. In order to better understand the perceptions of personnel in the logistics department, a survey is conducted first. Researchers then used Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) to determine the influence and relationship among variables and also thereby try to identify existence of reduction of variables and formation of new constructs for the study, the revenues for public urban transportation firms, and the investment and management expenses for the public urban transportation companies'

platform. The research also included an environmental evaluation, which concluded that establishing environmental monitoring has a significant impact on the long-term viability of public urban transportation businesses. The elements of Service Quality and Customer-Orientation, in addition, have a substantial impact on the long-term viability of public urban transportation organisations. More extensive environmental evaluations employing micro-simulation modelling, both accounting for actual traffic circumstances and the availability of commercial bays and comparing conventional vs public transportation-based crowdshipping will be the subject of future research endeavours; (ii) an in-depth examination of both technical needs (for example, the placement and size of parcel lockers) and the necessary cooperation between shippers, logistics operators, and different transportation platform providers; and (iii) a complete investigation of the whole spectrum of key components (e.g., economic, legal, social, and psychological difficulties) that may obstruct the adoption of a successful business mode, conducted via a multidisciplinary method.

REFERENCES

1. Decision support system based on the support vector machines and the adaptive support vector machines algorithm for solving chest disease diagnosis problems Amani Yahyaoui1, Nejat Yumuşak Biomedical Research 2018 , 29 (7): 1474-1480.
2. An Efficient Feature Selection Strategy Based on Multiple Support Vector Machine Technology with Gene Expression Data ,Ying Zhang,1 Qingchun Deng,2 Wenbin Liang,3 and Xianchun Zou BioMed Research International , 2018.
3. Data mining in healthcare–a review. Procedia,Computer Science , NeeshaJothi,WahidahHusain,etal., 72:306–313, 2015.
4. A survey on data mining approaches for healthcare. International Journal of Bio-Science and Bio-Technology, Divya Tomar and Sonali Agarwal ,5(5):241–266, 2013.
5. Greg JF. Household-contact investigation for detection of tuberculosis in Vietnam. N Engl J Med 2018; 378: 221-229.
6. Sentiment Analysis using SVM: A Systematic Literature Review , Munir Ahmad1, Shabib Aftab2, Muhammad Salman Bashir3, Noureen Hameed4 , IJACSA, Vol. 9, No. 2, 2018.
7. N. T. Liu and J. Salinas, "Machine learning in burn care and research: A systematic review of the literature," Burns, vol. 41, no. 8, pp. 1636–1641, 2015.
8. Maria Virvou, Efthimios Alepis, George A. Tsihrintzis, Lakhmi C. Jain:Machine Learning Paradigms-Advances in Learning Analytics Intelligent Systems Reference Library 158, Springer 2019, ISBN 978-3-030-13742-7.
9. Empirical Approach to Machine Learning. Studies in Computational Intelligence 800, Springer 2019, ISBN 978-3-030-02383-6.
10. Jun Jiang, Zhe Wen, Mingxin Zhao, Yifan Bie, Chen Li, Mingang Tan, Chaohai Zhang:Series Arc Detection and Complex Load Recognition Based on Principal Component Analysis and Support Vector Machine. IEEE Access 7: 47221-47229, 2019.
11. HushengGuo, Wenjian Wang:Granular support vector machine: a review. Artif. Intell. Rev. 51(1): 19-32 (2019).
12. Seokho Kang, Dongil Kim, Sungzoon Cho:Approximate training of one-class support vector machines using expected margin. Computers & Industrial Engineering 130: 772-778 (2019).
13. Tianyong Wu, Jian Zhang:Boundary value analysis in automatic white-box test generation. ISSRE 2015: 239-249.
14. Rolci Cipolatti, I-Shih Liu, Luiz A. Palermo, Mauro Antonio Rincon, Ricardo M. S. Rosa:A boundary value problem arising from nonlinear viscoelasticity: Mathematical analysis and numerical simulations. Applied Mathematics and Computation 335: 237-247 (2018).