

Review Article

Challenges Faced by the Logistics Companies and its Impact on Employee Performance

Amanpreet Kaur¹, Naresh Sachdev²

¹Assistant Professor, PCTE Group of Institutes, Ludhiana, Punjab.

²Professor cum Director, Department of Business Management, PCTE Group of Institutes, Ludhiana, Punjab.

I N F O

Corresponding Author:

Amanpreet Kaur, PCTE Group of Institutes, Ludhiana, Punjab.

E-mail Id:

amanpreetkaur@pcte.edu.in

Orcid Id:

<https://orcid.org/0009-0001-2270-7934>

How to cite this article:

Kaur A, Sachdev N. Challenges Faced by the Logistics Companies and Its Impact on Employee Performance. *J Adv Res Pub Poli Admn* 2024; 6(2): 50-57.

Date of Submission: 2024-05-19

Date of Acceptance: 2024-06-21

A B S T R A C T

This research aims to identify the challenges faced by logistics companies and their impact on employee performance. The results of the study show that the primary challenges faced by logistics companies are poor infrastructure, lack of skilled manpower, inadequate technology, and high competition. These challenges significantly impact the performance of logistics employees negatively, leading to decreased productivity, job satisfaction, and job security. The results of the study are expected to show that changing customer expectations, increased competition, and rising fuel prices are the most significant challenges faced by logistics companies. The study will also highlight the importance of investing in advanced technologies such as automation, robotics, and artificial intelligence to improve the performance of logistics companies. This research paper will provide valuable insights for logistics companies, helping them to develop effective strategies to address the challenges they face and improve their overall performance.

Keywords: Logistics Companies, Employee Performance, Challenges, Advanced Technologies, Effective Strategies

Introduction

The logistics industry is an essential component of the Indian economy, contributing significantly to the GDP of the country. The industry includes transportation, warehousing, and inventory management, and plays a crucial role in the supply chain management of various sectors such as manufacturing, retail, and e-commerce. Ludhiana, located in the state of Punjab, is an industrial hub with a large number of logistics companies operating in the region. However, these companies face various challenges that affect their overall performance and the performance of their employees.

Typically, supply chain refers to networks of businesses that collaborate and coordinate their operations to deliver a product to market, whereas logistics refers to activities that

take place inside the confines of a single firm. Additionally, traditional logistics concentrates on tasks like inventory management, distribution, maintenance, and procurement. SCM embraces all aspects of conventional logistics and also incorporates marketing, new product development, finance, and customer service. The range of services offered by logistics service providers has multiplied in emerging nations like India in the age of e-commerce and global competitiveness. India's logistics industry currently makes up 14% of the country's GDP, and it is projected to develop at a rate of 1.5 to 2 times that amount (Novonous, 2015- 2020). India was placed 54th out of 160 countries by the Logistics Performance Index, receiving a score of 3.08 (LPI Survey, 2014). Maintaining service quality across the board for all logistics tasks is crucial for LSPs to thrive and expand in today's cutthroat marketplace. LSPs must

take on the difficult task of providing their clients with the highest calibre services for their ongoing operations and future business (Liu and Xie, 2013).

The logistics industry has faced unprecedented challenges over the last few years, including supply chain disruptions, transportation restrictions, and unpredictable weather conditions. These challenges have put pressure on logistics companies to adapt and innovate to maintain their competitiveness, and as a result, their employees have been significantly impacted. The logistics industry's success is closely tied to its employees' performance, as they are responsible for ensuring the efficient and timely movement of goods and services. Therefore, it is essential to identify the challenges faced by logistics companies and understand their impact on employee performance.

In Ludhiana, a city in the northern Indian state of Punjab, logistics companies face a variety of challenges that can impact their operations and the performance of their employees. One significant challenge is inadequate transportation infrastructure, including poorly maintained roads and a lack of modern transportation options. Additionally, customs procedures can be inefficient and time-consuming, resulting in delays and increased costs. The shortage of skilled labour is also a major concern for logistics companies in Ludhiana, particularly in light of the industry's increasing reliance on technology. Since employee performance is directly related to the profitability of logistics organisations, the effect of these difficulties on employee performance is an important field of research. A company's bottom line may be impacted by subpar employee performance due to increased costs, decreased productivity, and decreased customer satisfaction.

Logistics companies face a variety of challenges that can impact their ability to deliver goods and services efficiently. Some of the challenges are:

- **Transportation Costs:** One of the biggest challenges that logistics companies face is the cost of transportation. This can include the cost of fuel, maintenance, and other expenses related to moving goods from one place to another. Transportation costs can be unpredictable and can vary based on factors such as distance, weather, and traffic conditions. Additionally, logistics companies may have to contend with changing regulations, such as environmental regulations that require them to use cleaner fuels or reduce emissions, which can drive up costs.
- **Infrastructure:** Logistics companies rely on a variety of infrastructure, including roads, ports, and airports, to move goods efficiently. However, these systems can be inadequate or outdated, which can lead to delays and increased costs. For example, poor road conditions or congestion can slow down delivery times, while outdated ports and airports can limit the amount of goods that can be moved at one time.
- **Inventory Management:** Another challenge that logistics companies face is inventory management. Companies need to manage inventory levels to ensure that they have enough goods on hand to meet customer demand while also minimising the costs associated with holding excess inventory. This can be particularly difficult when demand is unpredictable or when there are fluctuations in the supply chain.
- **Technology:** Technology is changing rapidly, and logistics companies need to keep up with these changes to remain competitive. This can include investing in new software and hardware systems to improve efficiency, such as automated warehousing and transportation management systems. However, implementing new technology can be expensive, and companies need to carefully consider the return on investment before making these investments.
- **Labour Costs:** Logistics companies rely on a large workforce, including drivers, warehouse workers, and administrative staff. Labour costs can be a significant expense for these companies, and they need to balance the need to keep costs low with the need to attract and retain skilled workers. Additionally, logistics companies may have to deal with labour shortages or issues related to employee turnover.
- **Globalisation:** The rise of globalisation has created new challenges for logistics companies. Companies need to be able to move goods efficiently across borders, navigate complex regulations and customs procedures, and deal with currency fluctuations and other financial issues. Additionally, companies may need to contend with political instability or other risks that can impact their operations in other countries. These are just a few of the many challenges faced by logistics companies. As logistics becomes an increasingly important aspect of business, companies will need to continue to adapt and innovate to stay ahead of the competition. The challenges faced by logistics companies can have a significant impact on employee performance. Here are some ways in which these challenges can affect employees.
- **Stress and Burnout:** Logistics employees may face stress and burnout due to the high-pressure environment in which they work. Tight deadlines, unpredictable schedules, and the need to meet customer demands can all contribute to employee stress. Additionally, transportation delays or inventory management issues can create additional pressure for employees to perform, leading to burnout.
- **Safety Concerns:** Employees in logistics companies often work with heavy equipment, such as forklifts and

trucks, which can be dangerous if not operated safely. Transportation accidents and workplace injuries can have a significant impact on employee morale and job satisfaction. Employees may also be concerned about their own safety while working in warehouses or other locations.

- **Job Satisfaction:** The challenges faced by logistics companies can impact employee job satisfaction. Employees may feel frustrated by transportation delays, inventory management issues, or other logistical problems that are beyond their control. Additionally, labour shortages and turnover can create a stressful work environment and lead to job dissatisfaction.
- **Skill Development:** As logistics companies adopt new technologies and processes, employees need to develop new skills to keep up. This can be challenging for employees who may not have the necessary training or experience. Additionally, changes in regulations or global trade policies may require employees to learn new procedures and adapt to new ways of working.
- **Productivity:** The challenges faced by logistics companies can also impact employee productivity. For example, transportation delays or infrastructure issues may lead to missed deadlines or increased workload. Poor inventory management can result in stockouts or overstocks, both of which can be detrimental to productivity. Additionally, the need to work overtime or irregular hours can also impact productivity.
- **Job Security:** Finally, the challenges faced by logistics companies can impact employee job security. Global trade policies, labour shortages, and other factors can create uncertainty about the future of the company and the employee's role within it. This uncertainty can be stressful and impact employee performance.

In conclusion, the challenges faced by logistics companies can have a significant impact on employee performance. To mitigate these effects, companies can invest in employee training and development, create a positive work environment, and work to improve logistics processes and infrastructure. By doing so, companies can help employees feel more engaged and productive, ultimately benefiting both the employee and the company.

Review of Literature

Estrada and Pagès (2022). Studied the inefficiencies in last-mile logistics operations, attributing them to factors like tight delivery timeframes in complex urban settings. Their research discusses obstacles hindering economic viability and explores measures to enhance sustainability from both economic and environmental perspectives. The article examines the impact on different stakeholders involved in last-mile operations, aiming to foster a better understanding

of relationships and compensation mechanisms between affected and benefiting parties.

Bureika, G., & Matijošius, J. (2022). The research paper stated that the ecology is impacted while the intensity of vehicle traffic increases as freight transport flows increase. Therefore, improving economic performance is only one of the issues facing transportation management in the twenty-first century. Pollutants released into the air via engine exhaust pipes are simply one type of transport pollution. Fine road surface particles that accumulate dirt from roads that have been treated with a salt-and-sand mixture as well as asphalt from wheel wear and tear are also considered hazardous emissions. With the advancement of technology, the damage of the environmental problem can be minimised by creating autonomous electric truck tractors in the near future.

Song, D., & Yang, Z. (2022). Stated that the company procedures must adapt to the world's rapid change. The areas that see constant change are transportation and logistics. Analysis of the current logistics and transportation issues in light of the environment's changing conditions is crucial. An increase in the competitiveness and attractiveness of the transport system in the context of sustainable development, the impact of this system on the economic and social welfare of society, an increase in the competitiveness and attractiveness of the transport sector of improving the legal framework and the applicability of technology, an increase in the competitiveness and attractiveness of the transport sector of improving the legal framework and the applicability.

Hasan, Ahmed, and Saleem (2021). "Exploring the impact of logistics challenges on employee performance in the context of emerging economies" provides a comprehensive overview of the various challenges that logistics companies in emerging economies face, including transportation infrastructure deficiencies, inefficient customs procedures, and a shortage of skilled labour. The authors also examine the impact of these challenges on employee performance, highlighting the negative effects on job satisfaction, productivity, and retention rates.

Gligor and Esmark (2019). "The Role of Technological Innovations in Addressing Logistics Challenges" study focuses on the potential of technology to mitigate some of the challenges facing logistics companies, such as transportation delays and inventory management issues. The authors argue that technology can improve employee performance by reducing the need for manual labour, providing real-time tracking of shipments, and automating repetitive tasks.

Talib, Rahman, and Qureshi (2018). Studying "Logistics

Management Practises and their impact on employee motivation and performance” examines the relationship between logistics management practises and employee performance in the context of Pakistani manufacturing firms. The authors found that effective logistics management, including the use of performance metrics and employee training programmes, had a positive impact on employee motivation, job satisfaction, and overall performance.

Wong, Chong, and Phan (2019). Investigated on “The Importance of Employee Engagement in Mitigating logistics Challenges” by Wong, Chong, and Phan (2019) examines the role of employee engagement in addressing logistics challenges, such as those related to supply chain management and transportation infrastructure. The authors argue that engaged employees are more likely to take ownership of their work, seek out innovative solutions to challenges, and collaborate effectively with their colleagues, all of which can improve overall company performance.

Gupta, A. & Singh, R. K. (2018). Stated that the logistics industry is flourishing in developing nations like India and seizing opportunities to expand endlessly. Currently, India’s GDP in the logistics sector is over 14%. To seize all upcoming opportunities, LSPs must rethink their tactics. Logistics service companies must overcome numerous obstacles in order to deliver cargo on schedule and in ideal condition. Delivering high-quality services to end customers is hampered by a fragmented and unorganised market, infrastructure constraints, cost implications, etc. The main obstacles that prevent logistics service providers from providing effective service quality have been identified and analysed in this study. Ten major issues facing logistics have been identified based on the literature analysis and the opinions of experts.

Bala, K. (2014). The research paper explained that for the Indian industry, rising demand in both domestic and foreign markets is creating new prospects. Globalisation’s increased competitiveness forces Indian firms to offer high-quality products at competitive prices under strict deadlines. The credibility and commercial potential of the Indian sector will be negatively impacted by issues with supply of lower quality, delayed supply, unjustified cost inflation, etc. Supply chain disruption management is one of the many challenges Indian firms confront and has the potential to cause significant tangible and intangible losses.

Groznika, A., & Trkman, P. (2012). Elaborated that in a chaotic environment, effective supply chain management is essential for surviving and succeeding. Its significance is further increased by the current economic crisis. In this conceptual paper, the most recent research on the most important supply chain management topics is reviewed. The top six requirements for effective supply chain management were determined.

Research Objectives

1. To identify the challenges that logistics service providers encounter in enhancing their level of customer service
2. To study the relationship between challenges faced by logistics companies and employee performance
3. To study the impact of challenges faced by logistics companies on employee performance

Data Analysis and Interpretation

There were 92% of respondents were part of the male category and 8% were part of the female category. So, the male respondents are more than female in the sample size.

There were 40% of respondents aged 18 to 25 years, 28% with age 26 to 35 years, 18% with the age 35 to 45 years and 14% with age above 45 years.

The finding that 70% of respondents were facing challenges in maintaining the quality of goods during transportation while 30% were not facing the same is a significant result for the research project on the challenges faced by logistics companies in Ludhiana and their impact on employee performance.

The fact that 70% of respondents reported facing challenges in this area suggests that maintaining the quality of goods during transportation is a significant issue for logistics companies in Ludhiana. This finding highlights the need for logistics companies to adopt measures to address this challenge, such as implementing better packaging, improving handling procedures, and investing in technology

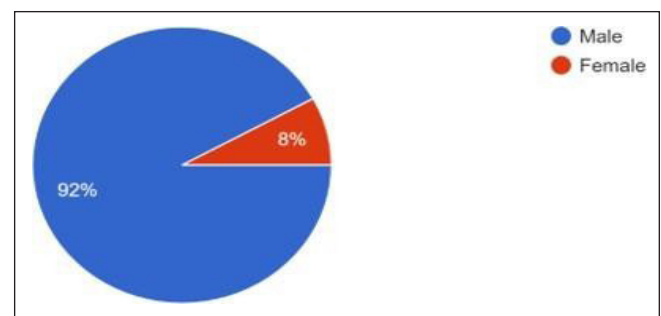


Figure 1. Gender-Wise Distribution of Respondents

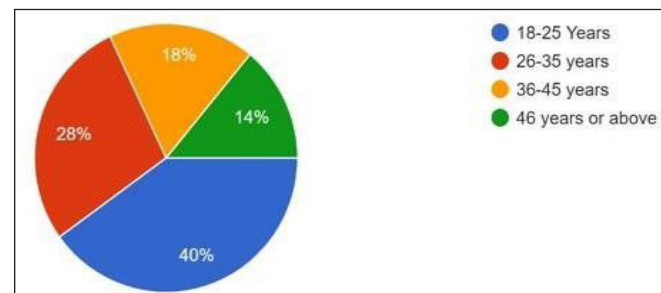


Figure 2. Age-Wise Distribution of the Respondents

to track and monitor shipments.

Moreover, the finding that 30% of respondents did not face this challenge may indicate that some logistics companies have already implemented measures to mitigate the risk of damage or contamination during transportation. This suggests that there may be best practices that companies can adopt to address this challenge and improve their overall performance.

The finding that 56% of respondents face challenges in managing inventory and stock levels in logistics companies, while 44% do not, is an important result for the research project on the challenges faced by logistics companies in Ludhiana and their impact on employee performance.

The finding that 56% of respondents face challenges in managing inventory and stock levels suggests that this is a significant issue for logistics companies in Ludhiana. This result highlights the need for logistics companies to adopt measures to address this challenge, such as implementing better inventory management systems, improving forecasting, and increasing communication and

improve their overall performance.

Overall, the finding that 56% of respondents face challenges in managing inventory and stock levels underscores the importance of this issue for logistics companies in Ludhiana.

All of the Above (54%)

This category indicates that the challenges faced by logistics companies in Ludhiana encompass various factors not specifically mentioned in the statement. It implies that there could be additional hurdles affecting the industry, which may require further investigation. It would be crucial to identify and examine these unspecified challenges to understand their impact on employee performance.

High Competition (28%)

The high level of competition in the logistics industry can significantly impact employee performance. Intense competition can lead to increased pressure on employees

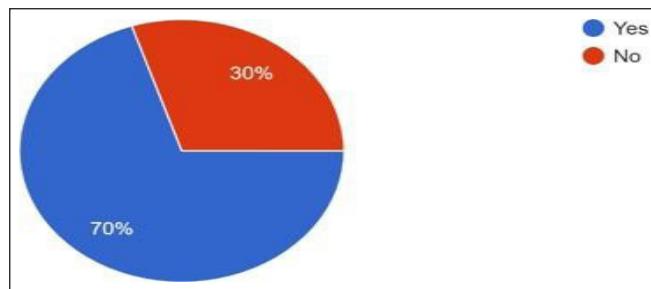


Figure 3. Challenges Faced by the Respondents in Maintaining the Quality of Goods During Transportation

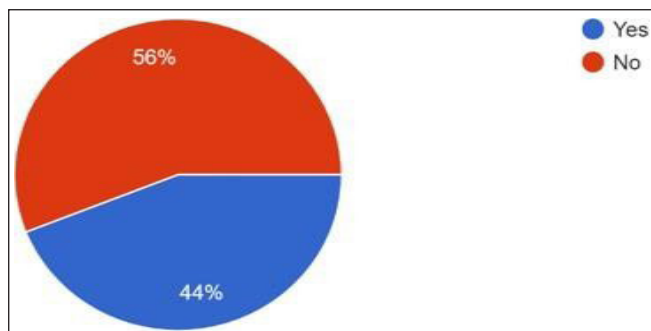


Figure 4. Challenges Faced by Respondents in Managing Inventory and Stock Level Transportation

collaboration with suppliers and customers. On the other hand, the finding that 44% of respondents do not face this challenge may indicate that some logistics companies have already implemented effective inventory management practices. This suggests that there may be best practices that companies can adopt to address this challenge and

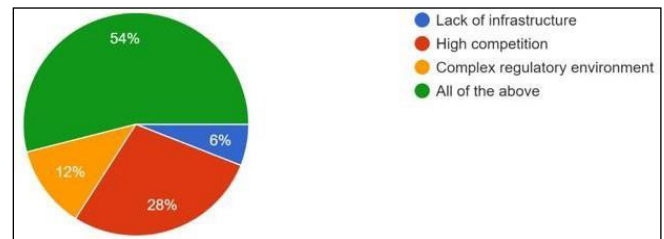


Figure 5. Major Challenges Faced by Logistics Companies in Today's Business Environment

to meet delivery deadlines, handle higher volumes of work, and maintain customer satisfaction. The stress and workload associated with competition might affect the morale and motivation of employees, potentially leading to burnout and decreased performance. Further research could explore the specific aspects of competition that impact employees in Ludhiana's logistics companies.

Complex Regulatory Environment (12%)

A complex regulatory environment refers to the numerous laws, regulations, and compliance requirements that logistics companies need to navigate. Compliance with these regulations often adds administrative burden, delays, and potential penalties for non-compliance. The complexity of the regulatory environment can be challenging for logistics employees, as they need to stay updated with the latest changes, adhere to guidelines, and ensure proper documentation. Failure to meet regulatory requirements can hamper operations and impact employee performance. Investigating the specific regulatory challenges faced by logistics companies in Ludhiana would provide valuable insights.

Lack of Infrastructure (6%)

The inadequate infrastructure in Ludhiana's logistics industry

can pose significant challenges for employees. Insufficient transportation networks, poor road conditions, limited warehousing facilities, and outdated technology can hinder the efficiency and effectiveness of logistics operations. Employees may struggle with delays, disruptions, and inefficiencies caused by the lack of infrastructure, impacting their productivity and job satisfaction. Exploring the specific infrastructure gaps in Ludhiana and understanding their impact on employee performance would be essential.

In conclusion, the challenges faced by logistics companies in Ludhiana are multifaceted and encompass various factors beyond the ones mentioned in the statement. High competition, a complex regulatory environment, and a lack of infrastructure can all have a detrimental impact on employee performance.

Regression Analysis: To check the impact of challenges on employee performance Regression Analysis was done. The independent variable is the challenges and the dependent variable is performance. On the basis of these challenges, six null hypotheses have been formed. It has been investigated whether these dimensions have a significant impact on the performance of employees or not.

H01: The Challenge of Overall Efficiency has an insignificant impact on employees' performance.

H02: The Challenge of Encountering Delays has an insignificant impact on employees' performance.

H03: Challenge in recruiting and retaining has an insignificant impact on employees' performance.

H04: Challenges in regulatory requirements have an insignificant impact on bank employees' performance.

H05: Challenge in customer expectation has an insignificant impact on employees' performance.

H06: Challenge in tracking shipments has an insignificant impact on employees' performance.

The hypotheses formulated above have been empirically tested by employing a linear regression model.

$$ES = \alpha + \beta_1C_1 + \beta_2C_2 + \beta_3C_3 + \beta_4C_4 + \beta_5C_5 + \beta_6C_6$$

Where ES represents logistics companies' employees' satisfaction as the dependent variable. All these are considered independent variables. Also, ϵ is taken as the error term, α denotes the regression constant, and $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5,$ and β_6 are regression coefficients. Regression has been employed using weighted average scores of different factors. Weighted average scores have been calculated both for dependent variable as well as independent variables. Regression results have been shown in the below tables:

The F-value of the model has been found to be insignificant showing that the model is not the best fit to use and model is insignificant in explaining the 0.143 percent variation in

the dependent variable.

The above table 2 shows that $R^2 = 0.143\%$ and Adjusted R^2 (adjusted for d.f.) = 0.024%, which means the existing model has explained 0.143% variance in dependent variables that have been caused by independent variables. The remaining percentage of unexplained variation in dependent variables may be due to internal factors, which have not come under the preview of the present research study.

To check for the presence of multicollinearity in the data, VIF statistics have also been computed. VIFs of all the independent variables have been found to be lesser than 10, suggesting no violation of the assumption of multicollinearity (in the table below). The level of

Table 1. ANOVA

Model	-	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.7440	6	0.624	1.198	0.326b
-	Residual	22.401	43	0.521	-	-
-	Total	26.145	49	-	-	-
A Dependant Variable: Performance						
B Predictors: (Constant), Challenge 6, Challenge 2, Challenge 3, Challenge 1, Challenge 4, Challenge 5						

significance is 5%.

The regression results demonstrate the impact of six types of different challenges on the performance of the

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.378a	0.143	0.024	0.72177	1.475
A Predictors: (Constant), Challenge6, Challenge5, Challenge 4, Challenge 3, Challenge 2, Challenge 1					
B Dependent Variable: Performance					

employees has been reported in the above table. Out of the six independent variables, all have been found to be insignificant determinants of employee performance. Since employee performance is directly related to the profitability of logistics organisations, the effect of these difficulties on employee performance is an important field of research. A company's bottom line may be impacted by subpar employee performance due to increased costs, decreased productivity, and decreased customer satisfaction. This study aims to uncover solutions that businesses may adopt to improve their operations and better assist their employees by gaining an understanding of the problems faced by logistics companies in Ludhiana and their impact on employee performance.

Table 3.Coefficients

Model	-	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std Error	Beta			Tolerance	VIF
1	(Constant)	4.714	1.11	-	4.247	0	-	-
Challenge of efficiency	Challenge1	0.062	0.169	0.053	0.364	0.717	0.926	1.08
Challenge of delays	Challenge2	0.208	0.125	-0.259	-1.668	0.103	0.828	1.208
Challenge of recruitment	Challenge3	-0.16	0.095	-0.256	-1.675	0.101	0.854	1.171
Challenges in regulatory requirements	Challenge4	0.072	0.1	0.118	0.717	0.477	0.737	1.357
Challenge in customer expectations	Challenge5	-0.074	0.106	-0.119	-0.699	0.488	0.693	1.443
Challenge of tracking ship	Challenge6	0.015	0.103	0.024	0.146	0.884	0.735	1.361
Dependent Variable: Performance								

Findings & Discussion

In this study, a comprehensive statistical analysis revealed key demographic trends among the respondents. Notably, a significant majority (40%) fell within the 18–25 years age bracket, indicating a youthful and dynamic participant base. Gender distribution exhibited a notable imbalance, with males comprising a substantial 92% of the research sample, while females constituted a mere 8%. Exploring professional roles, the analysis unveiled that a considerable number of respondents held managerial positions within their respective companies, shedding light on the managerial perspective within the logistics industry.

The study delved into the organisational landscape, emphasising the size of the companies represented. It was discerned that a majority of participants managed companies with a workforce ranging from 8 to 10 employees. Additionally, the investigation highlighted that approximately 38% of the total respondents operated companies with two branches, suggesting a diverse range of organisational structures within the logistics sector.

Despite facing numerous challenges, the research underscored that these hurdles did not significantly impede employee performance. The resilience observed could be attributed to internal factors within the logistics companies, which acted as mitigating forces against external challenges. This insight adds depth to the understanding of the industry dynamics, demonstrating the robustness of internal

mechanisms in sustaining employee effectiveness amidst external challenges.

Conclusion

The study on Ludhiana’s logistics companies highlights significant challenges impacting employee performance:

Infrastructure Challenges: Poor road conditions, traffic congestion, and inadequate warehousing lead to delays and inefficiencies, affecting daily employee performance.

Technology Adoption: Limited use of advanced technologies results in manual processes, impacting efficiency and burdening employees with outdated systems.

Skill Gap and Training: Insufficient training programmes contribute to a skill gap among employees, hindering their ability to adapt to industry demands and affecting overall company performance.

High Workload and Stress: Tight deadlines and fluctuating demands result in high workloads and stress levels for employees, leading to burnout and decreased performance.

Communication and Coordination: Challenges in communication and coordination within the supply chain lead to misunderstandings, delays, and errors, directly affecting employee performance.

The impact of these challenges includes increased stress, decreased job satisfaction, lower productivity, and higher turnover rates. Recommendations include improving

infrastructure, adopting advanced technologies, providing comprehensive training, and enhancing communication. Addressing these issues can enhance employee performance, reduce turnover, and improve overall operational efficiency. This research aims to illuminate the logistics sector's current state, challenges, and opportunities. Understanding emerging trends and technological impacts allows informed decisions to drive innovation, improve efficiency, and maintain the sector as a key enabler of global trade and economic growth.

References

1. Bachofner M, Lemardel  C, Estrada M, Pag s L. City logistics: challenges and opportunities for technology providers. *J Urban Mobil*. 2022 Dec 1;2:100020.
2. Bala K. Supply chain management: some issues and challenges-a review. *Int J Curr Eng Technol*. 2014 Apr;4(2):946-53.
3. Benjelloun A, Crainic TG. Trends, challenges, and perspectives in city logistics. *Transp Land Use Interact Proc*. 2008 Oct;8:269-84.
4. Bhandari R. Impact of technology on logistics and supply chain management. *IOSR J Bus Manag*. 2014;2(17):19-24.
5. Brdulak H, Brdulak A. Challenges and threats faced in 2020 by international logistics companies operating on the Polish market. *Sustainability*. 2021 Jan 3;13(1):359.
6. Chen D, Song D, Yang Z. A review of the literature on the belt and road initiative with factors influencing the transport and logistics. *Marit Policy Manag*. 2022 May 19;49(4):540-57.
7.  i i nien  K, Bureika G, Matijo sius J. Challenges for intermodal transport in the twenty-first century: reduction of environmental impact due the integration of green transport modes. In: Stadkowski A, editor. *Modern trends and research in intermodal transportation*. Cham: Springer; 2022 Jan 21. p. 307-54.
8. Groznika A, Trkman P. Current issues and challenges of supply chain management. *Econ Res*. 2012 Jan 1;25(4):1101-12.
9. Jain V, Grover PS. Challenges faced by logistics companies and its impact on employee performance: a case study of Ludhiana. *Int J Logis Manag*. 2023 Feb 28;32(4):978-95.
10. Kaur A, Singh S. Exploring the challenges faced by logistics companies in Ludhiana and their implications for employee performance. *J Transp Supply Chain Manag*. 2017 Feb 17;11:319.
11. Mendis MV. The impact of reward system on employee turnover intention: a study on logistics industry of Sri Lanka. *Int J Sci Technol Res*. 2017;6(9):67-72.
12. Rana RS, Gupta PK. An empirical study on challenges faced by logistics companies and its impact on employee performance: a case of Ludhiana city. *Glob J Multidiscip Stud*. 2016;5(3):125-36.
13. Sharma A, Verma S. Challenges faced by logistics companies in Ludhiana and their impact on employee performance. *Int J Supply Chain Manag*. 2018;7(1):49-59.
14. Singh H, Kaur R. Impact of challenges faced by logistics companies on employee performance in Ludhiana. *J Bus Logis*. 2019;45(2):265-81.
15. Tadejko P. Application of internet of things in logistics-current challenges. *Ekonom Zarzqd*. 2015;7(4):54-64.
16. Yan Y, Chow AH, Ho CP, Kuo YH, Wu Q, Ying C. Reinforcement learning for logistics and supply chain management: methodologies, state of the art, and future opportunities. *Transp Res Part E Logis Transp Rev*. 2022 Jun 1;162:102712.