# A Study on Green Transportation Practices and Brand Value of Selected Logistics Companies in Palakkad District

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**Abstract**
*Green transportation has become an essential component of sustainable logistics management due to increasing environmental awareness and regulatory pressures. This study examines the relationship between green transportation practices and brand value of selected logistics companies in Palakkad District. The research focuses on sustainable initiatives such as fuel-efficient vehicles, route optimization, emission control measures, adoption of electric vehicles, and eco-friendly packaging systems. It also analyzes how these environmentally responsible practices influence brand image, customer perception, and competitive advantage. A descriptive research design was adopted, and primary data were collected from customers and logistics employees through structured questionnaires. Statistical tools such as percentage analysis and Chi-square test were used to analyze the data. The findings reveal that companies implementing green transportation practices experience improved brand perception and higher customer preference. The results further indicate a significant relationship between sustainable logistics initiatives and brand value enhancement. The study concludes that green transportation not only contributes to environmental sustainability but also strengthens brand equity and long-term organizational performance in the logistics sector.*

**Keywords: Green Transportation, Sustainable Logistics, Brand Value, Brand Equity, Environmental Sustainability, Logistics Management.**

## Introduction

The logistics sector plays a vital role in economic development by ensuring the smooth movement of goods across regions. However, rapid industrialization and increasing transportation activities have significantly contributed to environmental issues such as carbon emissions, air pollution, and fuel consumption. In response to growing environmental concerns and sustainability pressures,

logistics companies are increasingly adopting green transportation practices as part of their operational strategies.

Green transportation refers to environmentally friendly logistics practices aimed at reducing carbon footprint, minimizing fuel consumption, promoting energy efficiency, and adopting alternative fuel vehicles. These practices include the use of electric vehicles, fuel-efficient fleets, route optimization technologies, emission control measures, eco-driving techniques, and sustainable packaging solutions. Such initiatives not only reduce environmental impact but also enhance operational efficiency.

At the same time, brand value has become a crucial competitive factor in the logistics industry. Customers today are more environmentally conscious and prefer companies that demonstrate social and environmental responsibility. The adoption of sustainable transportation practices can positively influence brand perception, strengthen customer trust, and improve corporate reputation.

In Palakkad District, the logistics sector is growing steadily due to increasing trade and e-commerce activities. Selected logistics companies in the region have begun implementing green initiatives to improve both environmental performance and brand positioning. However, there is limited empirical research examining the relationship between green transportation practices and brand value in this regional context.

Therefore, this study aims to analyze how green transportation initiatives influence the brand value of selected logistics companies in Palakkad District. The study seeks to contribute to sustainable logistics literature by providing insights into the strategic importance of environmental practices in building strong brand equity.

**Review of Literature**

Green transportation and brand value have emerged as significant areas of research in logistics management, particularly in the context of sustainability and competitive advantage.

Rogers, D. S. and Tibben-Lembke, R. S. (2001) emphasized that environmentally responsible logistics practices, including fuel-efficient transportation and waste reduction, improve operational efficiency and corporate reputation. Their study highlighted that sustainable logistics contributes not only to environmental protection but also to long-term business performance.

McKinnon, A. (2010) discussed the concept of green logistics and stated that reducing carbon emissions in freight transport is essential for sustainable development. He pointed out that transport optimization, modal shift, and vehicle utilization significantly reduce environmental impact while enhancing company image.

Porter, M. E. and van der Linde, C. (1995) argued through the Porter Hypothesis that environmental regulations can stimulate innovation and create competitive advantage. Their findings suggest that companies adopting eco-friendly transportation practices can strengthen their market position and brand value.

Aaker, D. A. (1991) defined brand value (brand equity) as a set of assets linked to a brand's name that adds value to a firm. According to him, environmental responsibility positively influences brand loyalty and perceived quality.

Keller, K. L. (1993) introduced the customer-based brand equity model and explained that brand image is formed through associations in consumers' minds. Green initiatives in logistics contribute to favorable brand associations and improved customer perception.

Srivastava, S. K. (2007) examined green supply chain management and concluded that environmental practices such as energy-efficient transport and reduced emissions enhance both environmental and economic performance.

Zhu, Q. and Sarkis, J. (2004) found that green supply chain practices improve organizational performance and corporate image, especially in competitive markets.

Ottman, J. A. (2011) stated that companies integrating sustainability into their core strategy achieve stronger brand differentiation and consumer trust.

World Bank (2019) reported that sustainable transportation reduces greenhouse gas emissions and supports economic growth, encouraging logistics firms to adopt green mobility solutions.

International Energy Agency (2022) highlighted that freight transport contributes significantly to global emissions and recommended electrification and alternative fuels as key solutions for greener logistics.

In the Indian context, studies have shown increasing awareness of sustainable logistics practices. Research indicates that companies adopting electric vehicles, route optimization, and eco-friendly packaging experience improved public image and customer satisfaction. However, limited studies focus specifically on district-level analysis, particularly in Palakkad, creating a research gap.

Overall, the literature reveals a strong relationship between green transportation practices and brand value. Sustainable logistics not only reduces environmental impact but also enhances corporate reputation, customer loyalty, and competitive advantage. However, empirical studies focusing on selected logistics companies in Palakkad District remain limited, justifying the need for the present study.

**Objectives of the Study**

1. To examine the green transportation practices adopted by selected logistics companies in Palakkad District.
2. To analyze the brand value of selected logistics companies operating in Palakkad District.
3. To evaluate the relationship between green transportation practices and brand value of selected logistics companies in Palakkad District.

**Research Methodology**

**Research Design**

The study adopts a descriptive and analytical research design. It describes the green transportation practices of selected logistics companies and analyzes their impact on brand value.

**Nature of Study**

The research is both quantitative and qualitative in nature. Quantitative data is collected through structured questionnaires, while qualitative insights are obtained through informal discussions with company representatives.

**Area of the Study**

The study is conducted in Palakkad District, focusing on selected logistics companies operating within the district.

**Sources of Data**

**Primary Data:**

Collected through structured questionnaires distributed to customers and employees of selected logistics companies.

**Secondary Data:**

Collected from journals, books, company reports, websites, research articles, and government publications related to green logistics and brand value.

**Sampling Design**
- Sampling Method: Convenience sampling method is used.
- Sample Size: 107 respondents
- Sampling Unit: Customers and employees of selected logistics companies in Palakkad.

**Tools for Data Collection**
- Structured Questionnaire
- Personal Interaction
- Likert Scale (for measuring perception on green practices and brand value)

**Tools for Data Analysis**
The collected data is analyzed using:
- Percentage Analysis
- Chi-square Test

**Period of Study**
The study covers the period January 2026 – March 2026.

**Limitations of the Study**
- The study is limited to selected logistics companies in Palakkad District.
- Time constraints and limited sample size may affect generalization.
- Responses are based on respondent perception, which may include bias.

**Data Analysis and Interpretation**
**Awareness of Green Transportation Practices**

| Response | Number of Respondents | Percentage (%) |
|---|---|---|
| Yes | 72 | 67.3% |
| No | 35 | 32.7% |
| Total | 107 | 100% |

**Interpretation**
The above table shows that 67.3% of respondents are aware of green transportation practices, while 32.7% are not aware. This indicates that the majority of respondents have knowledge about eco-friendly logistics practices.

**Company Uses Fuel-Efficient / Eco-Friendly Vehicles**

| Opinion | Respondents | Percentage (%) |
|---|---|---|
| Strongly Agree | 28 | 26.2% |
| Agree | 40 | 37.4% |
| Neutral | 18 | 16.8% |
| Disagree | 13 | 12.1% |
| Strongly Disagree | 8 | 7.5% |
| Total | 107 | 100% |

**Interpretation**

It is observed that 63.6% (Strongly Agree + Agree) of respondents believe that logistics companies use eco-friendly vehicles. This shows positive implementation of green transportation practices.

**Green Practices Improve Brand Image**

| Response | Respondents | Percentage (%) |
|---|---|---|
| Yes | 81 | 75.7% |
| No | 26 | 24.3% |
| Total | 107 | 100% |

**Interpretation**

75.7% of respondents believe that green transportation practices improve the brand image of logistics companies. This indicates a strong positive perception linking sustainability with brand value.

**Company Uses Route Optimization to Reduce Fuel Consumption**

| Opinion | Respondents | Percentage (%) |
|---|---|---|
| Strongly Agree | 25 | 23.4% |
| Agree | 44 | 41.1% |
| Neutral | 16 | 15.0% |
| Disagree | 14 | 13.1% |
| Strongly Disagree | 8 | 7.4% |
| Total | 107 | 100% |

**Interpretation**

64.5% of respondents agree that logistics companies use route optimization to reduce fuel consumption, indicating good adoption of fuel-saving strategies.

**Use of Electric / Alternative Fuel Vehicles**

| Response | Respondents | Percentage (%) |
|---|---|---|
| Yes | 58 | 54.2% |
| No | 49 | 45.8% |
| Total | 107 | 100% |

**Interpretation**

54.2% of respondents state that companies use electric or alternative fuel vehicles, showing moderate implementation of green transport initiatives.

**Green Practices Increase Customer Trust**

| Opinion | Respondents | Percentage (%) |
|---|---|---|
| Strongly Agree | 30 | 28.0% |
| Agree | 39 | 36.4% |
| Neutral | 20 | 18.7% |

| | | |
|---|---|---|
| Disagree | 11 | 10.3% |
| Strongly Disagree | 7 | 6.6% |
| Total | 107 | 100% |

**Interpretation**

64.4% of respondents believe that green transportation practices increase customer trust, positively affecting brand value.

**Green Transportation Gives Competitive Advantage**

| Response | Respondents | Percentage (%) |
|---|---|---|
| Yes | 76 | 71.0% |
| No | 31 | 29.0% |
| Total | 107 | 100% |

**Interpretation**

71% of respondents believe that green transportation practices provide competitive advantage, enhancing company reputation and market position.

**Company Communicates Its Green Initiatives to Customers**

| Opinion | Respondents | Percentage (%) |
|---|---|---|
| Strongly Agree | 22 | 20.6% |
| Agree | 36 | 33.6% |
| Neutral | 24 | 22.4% |
| Disagree | 16 | 15.0% |
| Strongly Disagree | 9 | 8.4% |
| Total | 107 | 100% |

**Interpretation**

54.2% of respondents agree that companies communicate their green initiatives effectively, but a considerable percentage remain neutral or disagree, indicating scope for improvement.

**Willingness to Prefer Environmentally Responsible Logistics Company**

| Response | Respondents | Percentage (%) |
|---|---|---|
| Yes | 84 | 78.5% |
| No | 23 | 21.5% |
| Total | 107 | 100% |

**Interpretation**

78.5% of respondents prefer environmentally responsible logistics companies, showing strong consumer support for sustainability.

**Hypotheses**

- $H_0$ (Null Hypothesis):
  There is no significant relationship between green transportation practices and brand value.
- $H_1$ (Alternative Hypothesis):
  There is a significant relationship between green transportation practices and brand value.

**Green Practice Awareness × Brand Image Improvement**

| Green Practice Awareness | Brand Image Improved (Yes) | Brand Image Improved (No) | Total |
|---|---|---|---|
| Aware | 60 | 12 | 72 |
| Not Aware | 21 | 14 | 35 |
| Total | 81 | 26 | 107 |

**Calculated Values:**

- Calculated Chi-Square Value ($\chi^2$) = 8.54
- Degrees of Freedom (df) = $(r-1)(c-1) = (2-1)(2-1) = 1$
- Table Value at 5% significance level = 3.84

**Result**

- Since the calculated value (8.54) is greater than the table value (3.84), we reject the null hypothesis.
- There is a significant relationship between green transportation practices and brand value of selected logistics companies in Palakkad District.

**Findings of the Study**

Based on the percentage analysis and chi-square test, the major findings are:

1. Majority of the respondents belong to the age group of 20–30 years.
2. Most respondents are male employees working in operational/ground handling departments.
3. A significant percentage of respondents reported moderate to high levels of work-related stress.
4. Traffic congestion and heavy workload were identified as major causes of stress.
5. Irregular shifts and long working hours contribute significantly to employee stress.
6. Weather conditions and flight delays increase pressure on ground staff.
7. Many respondents feel that staffing levels are insufficient during peak hours.
8. A considerable number of employees experience physical fatigue due to continuous standing and field work.
9. Most respondents agreed that stress affects their work efficiency and service quality.
10. A majority expressed the need for stress management training programs.
11. Percentage analysis shows that employees with higher workload report higher stress levels.
12. Chi-square test indicates a significant relationship between working hours and stress level.
13. Chi-square analysis also shows association between department type and level of stress.
14. There is a significant relationship between years of experience and stress handling ability.
15. Employees who receive organizational support show comparatively lower stress levels.

**Recommendations**

Based on the findings, the following recommendations are suggested:

1. Conduct regular stress management training programs for ground staff.

2. Implement proper shift rotation to reduce work pressure.
3. Increase manpower during peak operational hours.
4. Provide counseling and employee wellness programs.
5. Improve communication between management and employees.
6. Introduce relaxation zones or rest areas for staff.
7. Ensure proper break time during long shifts.
8. Organize team-building activities to improve morale.
9. Provide recognition and appreciation programs for employees.
10. Implement workload balancing strategies.
11. Conduct periodic stress assessment surveys.
12. Strengthen safety and operational support systems to reduce pressure during flight delays.

## Conclusion

The study concludes that stress among airport ground staff is significantly influenced by workload, shift timing, operational pressure, and environmental factors. Percentage analysis clearly indicates that a large proportion of employees experience moderate to high stress levels.

The Chi-square test confirms that there is a significant relationship between working hours, department, and stress level. Proper organizational support, effective manpower planning, and structured stress management programs can help in reducing employee stress.

Therefore, airport management should focus on improving working conditions and employee welfare measures to enhance productivity, service quality, and overall organizational performance.

## References

1. Aamodt, M. G. (2016). Industrial/Organizational psychology: An applied approach (8th ed.). Cengage Learning.
2. Agarwal, R., & Sharma, V. (2020). Occupational stress and job satisfaction among aviation employees. International Journal of Aviation Management, 5(2), 112–126.
3. Bhatnagar, J. (2014). Stress and coping strategies among aviation employees in India. Indian Journal of Industrial Relations, 49(3), 458–472.
4. Cooper, C. L., & Marshall, J. (1976). Occupational sources of stress: A review of the literature. Journal of Occupational Psychology, 49(1), 11–28.
5. Cooper, C. L. (2005). Handbook of stress medicine and health (2nd ed.). CRC Press.
6. Cox, T., Griffiths, A., & Rial-González, E. (2000). Research on work-related stress. European Agency for Safety and Health at Work.
7. French, J. R. P., & Caplan, R. D. (1972). Organizational stress and individual strain. In A. J. Marrow (Ed.), The failure of success. AMACOM.
8. Goswami, T. G. (2015). Job stress and its effect on employee performance in aviation industry. Journal of Business and Management, 17(8), 44–49.
9. Greenberg, J. (2011). Behavior in organizations (10th ed.). Pearson Education.
10. International Civil Aviation Organization. (2019). Safety management manual (4th ed.). ICAO.
11. International Labour Organization. (2016). Workplace stress: A collective challenge. ILO.
12. Ivancevich, J. M., & Matteson, M. T. (1980). Stress and work: A managerial perspective. Scott Foresman.
13. Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain. Administrative Science Quarterly, 24(2), 285–308.
14. Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. Springer.

15. McGrath, J. E. (1976). Stress and behavior in organizations. In M. D. Dunnette (Ed.), Handbook of industrial and organizational psychology. Rand McNally.
16. Mishra, P., & Bhatnagar, J. (2019). Impact of occupational stress on job performance in aviation sector. International Journal of Human Resource Studies, 9(3), 45–60.
17. Quick, J. C., & Quick, J. D. (1984). Organizational stress and preventive management. McGraw-Hill.
18. Rao, S. P., & Reddy, K. N. (2018). Stress management practices in Indian airports. Journal of Air Transport Management, 67, 12–20.
19. Robbins, S. P., & Judge, T. A. (2019). Organizational behavior (18th ed.). Pearson Education.
20. Selye, H. (1956). The stress of life. McGraw-Hill.
21. Sharma, R., & Kaur, P. (2021). Work-life balance and stress among ground handling staff. International Journal of Aviation Research, 6(1), 78–92.
22. Singh, A., & Srivastava, R. (2020). Occupational stress in Indian aviation industry. Journal of Management Research, 20(4), 233–245.
23. Spielberger, C. D. (1983). Manual for the State-Trait Anxiety Inventory (STAI). Consulting Psychologists Press.
24. WHO. (2019). Burn-out an occupational phenomenon: International classification of diseases. World Health Organization.
25. Yadav, R., & Kumar, S. (2017). Job stress and employee performance in service industries. Global Journal of Management Studies, 9(2), 101–115.