

Sustainable Transformation in Logistics: Environmental Innovations and Human-Centered Strategies

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Abstract: This essay explores how environmental innovations and human-centered approaches can transform logistics. Here, data on the HRM policies and environmental contributions of the world's largest logistics businesses were collected. Logistics is the backbone of global trade, but it has serious environmental implications. Green logistics is crucial for the environment and economy. Sustainability efforts in the sector are highlighted and emphasized in this article. A broad view of logistics sustainability is presented in the essay. Environmental innovations, energy efficiency, carbon emissions reduction, renewable energy, and waste management are its priorities. The sustainability effects of human-centered strategies and HRM policies are also explored. Logistics sustainability has many issues. Challenges include excessive energy usage, carbon emissions, waste management, and reducing environmental impact. The sustainability impacts of human resources policy are another issue. This article uses content analysis. Content study involves reviewing logistics sustainability literature and researching the HRM policies and environmental contributions of the world's largest logistics businesses. This investigation included qualitative and quantitative data. The article shows that environmental improvements and human-centered tactics can transform logistics. Environmental advancements, including energy efficiency, carbon reduction, and renewable energy, are revolutionizing the sector. Sustainability benefits from human resources policies are also highlighted. Logistics is adopting sustainability measures. Global logistics giants are utilizing environmental advancements and people-centered strategies to achieve their sustainability goals, and these efforts are widespread and crucial.

Keywords: Logistics Sector; Sustainable Transformation; Environmental Innovations; Human-Centered Strategies; HRM Policies; Global Trade; Sustainability Practices; Logistics Companies.

Received on: 05/06/2024, **Revised on:** 17/08/2024, **Accepted on:** 01/09/2024, **Published on:** 12/12/2024

Journal Homepage: <https://www.fmdbpublish.com/user/journals/details/FTSESS>

DOI: <https://doi.org/10.69888/FTSESS.2024.000353>

Cite as: M. Ataseveri and B. Kose, "Sustainable Transformation in Logistics: Environmental Innovations and Human-Centered Strategies," *FMDB Transactions on Sustainable Environmental Sciences*, vol. 1, no. 4, pp. 201–210, 2024.

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1. Introduction

The logistics sector is the cornerstone of global trade, but it is also an area with significant environmental impacts due to high energy consumption and carbon emissions. Today, sustainable transformation is increasingly gaining importance in the logistics sector. Environmental innovations and human-centred strategies have become fundamental approaches to ensure sustainability in the sector. While logistics companies are adopting environmental practices such as the use of renewable energy sources,

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reducing carbon emissions, and effective waste management, they are also refining their human resources management (HRM) policies to enhance employee well-being and foster a sustainable workforce. In this study, data on HRM policies and environmental contributions of the world's largest logistics companies were collected, and these data were examined using the qualitative content analysis method. Within the scope of the research, the strategies of leading companies operating in the sector were analysed to understand and evaluate sustainability efforts in the logistics sector. In the following sections of the article, the concept of sustainability in the logistics sector and the main challenges in this area will be discussed. In the third section, the role of environmental innovations in the logistics sector will be examined, with applications such as energy efficiency, carbon emission reduction, renewable energy use, and waste management being evaluated.

In the fourth section, focusing on human-centered strategies, the policies of logistics companies regarding issues such as diversity, inclusiveness, employee well-being, education, and leadership development will be analyzed. In the fifth section, the research method will be explained, and the data collection and analysis processes used will be detailed. In the sixth section, sustainability practices in the logistics sector will be evaluated in light of the analyzed data, and the findings will be presented. Finally, in the seventh section, a general assessment will be made and suggestions will be presented for ensuring sustainable transformation in the logistics sector. This study aims to contribute to a comprehensive examination of sustainability practices in the logistics sector and to provide important implications regarding the roadmap that the sector should follow in the future.

2. Sustainability and Challenges in the Logistics Sector

The logistics sector forms the basis of global supply chains and makes significant contributions to economic growth. However, the high energy consumption, carbon emissions, and environmental impacts of this sector pose significant challenges to its sustainability. In this context, logistics companies are developing various strategies to achieve their sustainability goals. However, issues such as energy efficiency, reducing carbon footprint, waste management, and the impact of human resources policies on sustainability are among the main challenges faced in the sector [5].

2.1. High Energy Consumption and Carbon Emissions

In particular, land, air, and sea transportation are responsible for a significant portion of the global carbon emissions due to their dependence on fossil fuels. According to the International Energy Agency (IEA), the transportation sector accounts for approximately 25% of annual carbon emissions worldwide [15]. Measures such as the development of electric and hydrogen-powered vehicles, as well as the integration of renewable energy sources into logistics operations, stand out as important steps towards solving this problem. However, logistics companies are trying to reduce energy consumption by investing in alternative fuels and environmentally friendly transportation methods. For example, some large logistics companies are expanding their electric vehicle fleets and increasing the use of biofuels. One of the leading companies, Maersk, aims to be carbon neutral by 2040 and invests in sustainable fuel types such as green methanol [22]. Similarly, companies such as UPS and FedEx are making significant efforts to renew their fleets with electric vehicles and reduce carbon emissions [33]; [10]. However, factors such as high investment costs, lack of infrastructure, and limited availability of alternative fuels slow down the transition to sustainable energy. Therefore, more comprehensive policies need to be implemented in the sector with the support of governments and international organisations [13]; [43].

2.2. Waste Management and Reduction of Environmental Impacts

In the logistics sector, particularly with the rise of e-commerce, packaging waste and environmental impacts resulting from warehouse operations have become a significant issue. Packaging waste leads to increased plastic consumption and environmental pollution [6]. Additionally, energy consumption and waste generated during warehouse processes are also significant sustainability concerns [49]. In this context, some logistics companies are adopting circular economy practices, utilizing recyclable materials and aiming to minimize their carbon footprint. For example, DHL aims to reduce plastic use and switch to biodegradable packaging by developing sustainable packaging solutions [3]. In addition, many logistics companies are reducing fuel consumption by optimising routes with smart logistics systems. They are turning to the use of renewable energy to make warehouse operations energy efficient [18]. However, there are still serious deficiencies in sustainable waste management. In the logistics sector, the inadequacy of recycling infrastructure, particularly in developing countries, hinders sustainable waste management [45]. At this point, companies need to redesign all processes in the supply chain to minimise environmental impacts and make waste management a fundamental part of their operations [31].

2.3. Effects of Human Resources Policies on Sustainability

Sustainable logistics is not only directly related to environmental innovations, but also to the effective management of human resources. Elements such as employee well-being, occupational safety, diversity, and inclusiveness play a critical role in creating a sustainable logistics sector [16]; [49]. Today, many logistics companies are developing various programs to increase

the well-being of their employees and create a sustainable culture in the workplace. For example, companies such as Amazon and Zipline are taking significant steps towards enhancing employee health and safety by developing innovative programs for their employees [1]; [50].

UPS, on the other hand, invests up to \$500 million annually in training and leadership development programs, aiming to create a stronger workforce in the sector by improving the skills of its employees [34]. However, the heavy workload, long working hours, and stressful working environments faced by employees in the logistics sector create significant challenges in terms of human resources management. In addition, problems such as the low rate of female employees and the inadequate implementation of diversity policies negatively affect the sustainability of the sector [17]; [46]. To overcome these problems, logistics companies must develop more inclusive and sustainable policies for their employees. For example, approaches such as flexible working hours, increased work safety measures, and implementation of psychological support programs can contribute to the sector's human-centred sustainability efforts [32]; [28]. Sustainability in the logistics sector faces various challenges, including reducing energy consumption and carbon emissions, effective waste management, and developing human resources policies. Companies are trying to overcome these challenges by investing in environmental innovations and people-oriented strategies. However, in this process, it is of great importance that supportive elements such as government incentives, infrastructure investments, and the implementation of global regulations come into play [27]; [8]. In the coming years, for the logistics sector to achieve its sustainability goals, more comprehensive strategies are needed in terms of both environmental and human resources, and these strategies must be implemented effectively [47].

2.4. Environmental Innovations and Sectoral Applications

The logistics sector is developing various innovations and sustainable strategies to minimise its environmental impacts. Factors such as global warming, energy consumption, and the rapid depletion of natural resources compel logistics companies to develop innovative solutions. In this context, energy efficiency and renewable energy use, as well as strategies to reduce carbon emissions and circular economy practices, play a critical role in achieving the sector's sustainability goals.

3. Energy Efficiency and Renewable Energy Use

The logistics sector is an energy-intensive industry, primarily due to the energy requirements of transportation and warehouse operations. In line with sustainability goals, technologies that enhance energy efficiency and integrate renewable energy sources are being increasingly adopted across the sector [14]. Solar panels and wind energy, especially in logistics centers, can make a large part of the operational energy needs independent of fossil fuels. For example, significant savings in annual energy consumption are achieved by using solar energy panels in some of Amazon's distribution centers [1]. Similarly, large logistics companies such as DHL and UPS aim to reduce their carbon footprint by expanding their electric vehicle fleets and investing in renewable energy sources [4]; [35]. In addition, smart energy management systems are used in warehouses and distribution centers to optimize energy-intensive processes, such as heating, cooling, and lighting. For example, energy consumption is optimised and unnecessary energy waste is prevented thanks to LED lighting systems and smart sensors [38]; [19]. However, there are several challenges associated with the transition to renewable energy technologies. High investment costs, a lack of infrastructure, and limited access to renewable energy sources in certain regions are hindering the logistics sector's transition to full green energy [41]. However, government incentives and regulations aimed at reducing carbon emissions contribute to the acceleration of this process [8].

3.1. Strategies to Reduce Carbon Emissions

Carbon emissions from the logistics sector constitute a significant problem in combating global climate change. For this reason, logistics companies are developing various strategies to reduce carbon emissions [21]. One of these strategies is the use of alternative energy sources, such as alternative fuels. Electric and hydrogen-fueled vehicles reduce the environmental impact of transportation activities by minimizing carbon emissions. For example, large shipping companies such as Maersk aim to achieve carbon neutrality by 2040 by transitioning to low-carbon fuel alternatives [23]. Additionally, route optimisation systems play a crucial role in reducing carbon emissions in the logistics sector. Thanks to smart logistics software, transportation routes are made more efficient, and unnecessary fuel consumption is prevented. For example, companies such as FedEx and UPS optimise their transportation processes and reduce their carbon footprints by using artificial intelligence-supported route planning systems [11]; [35]. Another strategy to reduce carbon emissions is to invest in carbon offset projects. Logistics companies try to offset the carbon emissions resulting from their activities by investing in initiatives such as forest regeneration projects, carbon capture technologies, and sustainable agriculture practices. For example, DHL supports its customers in environmental sustainability by offering carbon-neutral transportation services [4]. However, there are also some challenges in reducing carbon emissions. The high cost of alternative fuels and lack of infrastructure limit the sector's carbon reduction initiatives [42]. In addition, some logistics companies only address sustainability policies within the scope of their corporate social responsibility strategies, slowing down the process of producing effective solutions in the long term [29].

3.2. Circular Economy and Waste Management Practices

The circular economy stands out as one of the most important approaches for increasing sustainability in the logistics sector. Minimizing waste, reusing materials, and improving recycling processes significantly contribute to reducing environmental impact in the sector [7]. Especially with the spread of e-commerce, packaging waste has become a significant environmental problem. Logistics companies are striving to make waste management more sustainable by adopting recyclable and biodegradable packaging solutions. For example, companies such as UPS and FedEx aim to reduce plastic consumption by developing reusable packaging systems [36]; [11]. However, various strategies are implemented to minimise environmental impacts in warehouse operations within the scope of waste management. For example, the widespread use of recycling bins and the separation of waste in logistics warehouses are important steps in ensuring environmental sustainability [39]. Additionally, some companies aim to transform waste materials into new products by utilizing upcycling methods in waste management [20]. Another important application that supports the circular economy in the logistics sector is the implementation of reverse logistics systems. Recycling used products and reprocessing or reselling them contributes to sustainability by reducing the amount of waste. For example, logistics companies in the automotive and electronics sectors recycle or repair old parts so that they can be used in new products [48].

However, there are some obstacles in the transition to a circular economy. The lack of sufficient investment in recycling infrastructure by logistics companies, combined with a lack of interest from consumers in sustainable packaging solutions, limits the sector's efforts to reduce its environmental impact [44]. Therefore, for the circular economy to be implemented effectively, both companies and consumers need to be informed and encouraged [30]. Environmental innovations in the logistics sector are of great importance in ensuring sustainability and minimising environmental impacts. Energy efficiency and renewable energy use, as well as strategies to reduce carbon emissions and circular economy practices, play a critical role in achieving the sector's sustainability goals [25]. In the coming years, the logistics sector is expected to embrace environmental innovations more widely and integrate these solutions into its operations. However, it is of great importance to establish and implement sustainability standards across the sector with the support of governments and international organisations [9].

4. Human-Centred Strategies and HRM Policies

Sustainability in the logistics sector is not limited to environmental and economic factors; strategies for human resources also play a critical role. The well-being, development, and motivation of employees in the sector contribute to long-term sustainability as well as increasing operational efficiency. In this context, human resources management (HRM) policies are among the key factors that directly impact a company's success. Diversity and inclusion policies, employee well-being practices, investments in training and leadership development, and strategies to enhance employee loyalty are the cornerstones of creating a sustainable corporate culture [17]; [12].

4.1. Diversity, Inclusion and Employee Well-being

Since the logistics sector has a global structure, it includes employees from different cultures, age groups, and skill sets. Therefore, diversity and inclusion policies are of great importance in sustainable human resources management within the sector. Diversity and inclusion policies are not only an ethical requirement, but they also help companies develop their innovation and problem-solving capabilities [24]. Employee well-being is a cornerstone of sustainable human resources policies. The logistics sector is characterised by intense working conditions, shift systems, and jobs that require high physical effort. Therefore, it is of great importance to provide ergonomic working environments, raise occupational health and safety standards, and offer psychological support programs to protect employee health. For example, some international logistics companies support stress management by providing psychological counselling services to their employees and providing flexible working hours to improve work-life balance [3]; [37].

4.2. Investments in Education and Leadership Development

The digitalization of the logistics sector, the proliferation of automation systems, and the increase in artificial intelligence-supported processes have made it necessary for employees to acquire new skills constantly. In this context, investments in education and leadership development play a crucial role in advancing employees' careers and maintaining a business's competitive advantage. Companies organise regular training programs to adapt their employees to new technologies [26]. Leadership development is one of the most important elements that support sustainable management in the logistics sector. Effective leaders can motivate their teams, streamline business processes, and contribute to the company's long-term success. For this reason, many companies implement special programs to identify talented employees and prepare them for leadership positions. For example, large logistics companies such as UPS and FedEx provide their employees with training on topics such as strategic management, crisis management, and team leadership through internal leadership academies [37].

4.3. Employee Commitment and Sustainable Corporate Culture

Employee engagement is a critical factor in reducing the high turnover rate in the logistics sector and ensuring the long-term success of businesses. Employees' commitment to their companies has a direct impact on job satisfaction, motivation, and productivity levels. Strategies to increase employee engagement include implementing fair wage policies, establishing performance-based reward systems, offering work-life balance programs, and involving employees in decision-making processes [12]. Creating a sustainable corporate culture is not limited to individual employee loyalty but is directly related to the company's general values and strategies. Ethical business practices, transparent management policies and social responsibility projects strengthen employees' ties with the company. In particular, adopting sustainability-oriented corporate values increases employee motivation and reinforces the sense of belonging in the workplace [2]; [3]. People-centred strategies and HRM policies play a vital role in helping the logistics sector achieve its sustainability goals. In the future, logistics companies are expected to implement policies that support their employees more and encourage their career development [17].

5. Research Method and Data Used

5.1. Qualitative Content Analysis Method

In this study, the environmental contributions and human resources policies of logistics companies were examined. The data were taken from EasyCargo 3D's [51]. In addition, information on human resources policies was collected from the official websites of relevant logistics companies. In this context, the environmental sustainability practices and human resources policies of UPS, FedEx, DHL, USPS, Maersk, Amazon, Einride and Zipline were evaluated in detail. The qualitative content analysis method was used in the study. Qualitative analysis is a frequently preferred method in the social sciences, allowing for an in-depth examination of data such as texts, documents, and visuals. In the study, public websites, official reports, and documents published by companies were examined to understand the sustainability policies and human resources practices of logistics companies. The obtained data were analyzed using a descriptive qualitative analysis method.

Data Collection: Official reports, sustainability documents and employee policies of logistics companies were collected from publicly available sources.

Coding and Categorization: The data obtained were analyzed using the thematic coding method, and common themes were identified and categorized.

Evaluation of Trends: Common strategies and different approaches determined among companies have been revealed.

6. Findings and Evaluation

6.1. Environmental Contributions and Human Resources Policies of Logistics Companies

As a result of the analysis, it was determined that logistics companies set similar goals regarding environmental sustainability, but their implementation strategies differed. Investments in electric vehicles and reductions in carbon emissions were observed as a common strategy. In human resources policies, approaches focusing on diversity and equal opportunities are noteworthy. It was observed that companies such as UPS, DHL and Amazon invest more in diversity and employee development. This analysis provides a basis for a better understanding of the sustainability and human resources strategies employed by companies in the logistics sector (Table 1).

Table 1: Environmental contributions and human resources policies of logistics companies

Company	Environmental Contributions	Human Resources Policies
UPS	Targets to reduce CO ₂ emissions (2024 and 2035), investments in electric vehicles, use of renewable energy, and planting more than 15 million trees	Diversity and inclusion policies, \$500 million annual education investment, emphasis on community service
FedEx	Fuel savings (Fuel Sense program), electric vehicles, drone deliveries, 255 million gallons of fuel saved	Equal opportunities, skill-oriented recruitment, diversity-oriented management approach
DHL	ISO 14001/50001 certificates, GoGreen program, zero emission target in 2050, green logistics practices	DEIB (Diversity, Equity, Inclusion, Belonging) principles, employee participation and innovation support

USPS	Use of more than 66,000 electric vehicles by 2028, optimisation of land transport	Equal employment policies, anti-harassment programs, annual policy updates
Maersk	Green methanol ships, 2040 net-zero carbon target, decarbonisation of container terminals	Commitment to human rights, prohibition of child and forced labour, worker health and safety
Amazon	Energy efficiency in the supply chain, greenhouse gas reporting, and hazardous substance management	Environmental justice policies, diversity and inclusion strategies, compensation structure (fixed, short-term and long-term incentives)
Einride	Fully electric and autonomous trucks, a rapid decarbonization strategy in line with the IPCC report	Young leader development programs, psychological safety environment, transformation-oriented corporate culture
Zipline	98% low-emission deliveries with UAV, sustainability in medical logistics	Employee well-being practices (yoga, meditation), professional development supports, philanthropy and innovation labs

6.2. Environmental Contributions

Three main themes stand out within the scope of environmental contributions: emission reduction and decarbonization, renewable energy and energy efficiency, tree planting and protection of natural resources. Under the theme of emission reduction and decarbonization, concepts such as CO₂ emissions, net zero carbon targets, electric vehicles, green methanol, and IPCC compliance are included, with electric vehicles being emphasized five times, CO₂ emissions and net zero carbon four times, and decarbonization three times. Green methanol and IPCC compliance are mentioned once each. Within the scope of the theme of renewable energy and energy efficiency, elements such as renewable energy, energy efficiency, energy savings, and energy reporting are addressed, with renewable energy mentioned once, energy efficiency twice, and energy savings and energy reporting each mentioned once. The theme of tree planting and natural resources focuses on the protection of natural resources, with tree planting being on the agenda once. These themes are addressed by dividing them into categories such as greenhouse gas management (CO₂ emissions, greenhouse gas reporting), zero-emission targets (net zero carbon, zero-emission target) and electric vehicles (electric vehicles, electric trucks).

6.3. Human Resources Policies

Human resources policies are examined under four main themes: diversity, inclusion, and equal opportunities; training and professional development; employee well-being and support; and society and social responsibility. Within the scope of the diversity, inclusion, and equal opportunities theme, diversity is emphasized five times, inclusivity four times, equal opportunities three times, and DEIB (Diversity, Equity, Inclusivity, Belonging) once. Within the scope of the training and professional development theme, investment in education is addressed once, professional development is addressed twice, leadership development is addressed once, and skill-based recruitment is addressed once each. Under the theme of employee well-being and support, employee well-being is mentioned twice, while psychological safety and innovation laboratories are mentioned once each. The theme of society and social responsibility includes elements such as community service, charity work and environmental justice, each of which is mentioned once. These policies are evaluated under categories such as equality and justice (diversity, equal opportunities, inclusiveness), development and training (investment in education, professional development, skill-based recruitment), and employee well-being (psychological safety, employee well-being).

7. Content Analysis

7.1. Environmental Contributions Theme

Emission Reduction and Decarbonization: Companies such as UPS, FedEx, and DHL are implementing a range of strategies to reduce their carbon footprint, including enhancing energy efficiency, utilizing renewable energy sources, and reducing fuel consumption. Reducing carbon emissions is a crucial step toward environmental sustainability and plays a vital role in combating climate change. Maersk and DHL aim to achieve net-zero carbon emissions by a specific date, which involves offsetting emissions from all their operations. Additionally, companies such as UPS, FedEx, DHL, USPS, and Einride are planning to replace their vehicle fleets with electric vehicles, a transition that aims to reduce fossil fuel consumption and associated emissions. Maersk and DHL are moving towards decarbonizing their operations, implementing strategies to minimize fossil fuel use and transition to renewable energy sources. Maersk is also transitioning to a cleaner energy source in maritime transportation by using green methanol on its ships, while Einride is implementing rapid decarbonization strategies in line with IPCC reports.

Renewable Energy and Energy Efficiency UPS aims to reduce fossil fuel consumption by using renewable energy, while Amazon and Zipline are developing strategies to increase energy efficiency. Energy efficiency both reduces costs and minimises

environmental impacts. FedEx aims to reduce energy consumption with fuel economy programs, while Amazon reports its energy consumption and greenhouse gas emissions. Tree Planting and Natural Resources UPS contributes to environmental sustainability by planting more than 15 million trees. At the same time, Amazon works on the efficient use and management of natural resources in its supply chain. Tree planting plays a crucial role in reducing carbon emissions and preserving natural ecosystems, while the sustainable use of natural resources minimizes environmental impacts.

7.2. Human Resources Policies Theme

Diversity, Inclusion, and Equal Opportunity. UPS, FedEx, DHL, and Amazon have implemented policies to increase diversity in their workforces, while UPS, DHL, and Amazon aim to create an inclusive work environment. FedEx and USPS ensure that everyone is treated fairly with equal opportunity policies, while DHL embraces the principles of diversity, equality, inclusion and belonging. Diversity encourages different perspectives and innovation in the workplace, while inclusion makes employees feel valued and accepted. Equal opportunity reduces discrimination, while DEIB policies make employees feel important in the workplace and increase engagement. Training and Professional Development UPS invests \$500 million annually in training for its employees, while FedEx attracts talented individuals through skill-focused recruitment processes. While Einride prepares future leaders with young leadership development programs, Zipline offers professional development support to its employees. Training investments enhance the company's competitiveness by enhancing the skills of its employees, while skill-focused recruitment ensures that the right talent is evaluated for the right positions. Leadership development programs support the long-term success of the company, while professional development opportunities enable employees to advance their careers and adapt to their roles within the organization.

7.3. General Content Evaluation

7.3.1. Environmental Contributions

Emission Reduction and Decarbonization: Emission reduction and decarbonization in the logistics sector play a crucial role in companies' environmental sustainability strategies. Companies like UPS, FedEx, and DHL stand out with their CO₂ emissions reduction goals. This is achieved through methods such as increasing energy efficiency and utilizing renewable energy sources. Additionally, companies such as Maersk and DHL have set net-zero carbon targets. The use of electric vehicles is a widely preferred method for reducing emissions and has been adopted by UPS, FedEx, DHL, USPS, and Einride. These companies' decarbonization efforts include strategies to minimise fossil fuel use and switch to renewable energy sources. Maersk's use of green methanol and Einride's rapid decarbonization strategies, in line with the IPCC reports, demonstrate that the importance of environmental sustainability in the logistics sector is increasing [40].

Renewable Energy and Energy Efficiency: Renewable energy usage plays a significant role in environmental contributions. UPS aims to reduce fossil fuel consumption by using renewable energy. Amazon and Zipline have developed various strategies to increase energy efficiency. FedEx aims to reduce fuel consumption through energy-saving programs. Amazon's energy reporting efforts allow the company to track its energy consumption transparently. These efforts enable companies to take important steps to minimise their environmental impact by increasing energy efficiency.

Tree Planting and Natural Resources: UPS's planting of more than 15 million trees demonstrates the company's efforts to offset carbon emissions and protect natural ecosystems, while Amazon is committed to the efficient use and management of natural resources in its supply chain. These efforts promote sustainable use of natural resources and ensure a healthy environment for future generations.

Trends and Common Concepts: The most frequently highlighted concepts in the environmental contributions theme include electric vehicles, CO₂ emissions, and net-zero carbon targets. These trends indicate that logistics companies are prioritizing electrification and setting carbon emission targets while fulfilling their environmental responsibilities. Electric vehicles is the most frequently mentioned concept, mentioned five times. CO₂ emissions is mentioned three times, reflecting the companies' commitment to reducing their carbon footprint.

7.3.2. Human Resources Policies

Diversity, Inclusion and Equal Opportunity Companies like UPS, FedEx, DHL and Amazon aim to increase diversity in their workforces and create an inclusive work environment. These companies ensure that everyone has equal opportunities through their diversity and inclusion policies. DHL's DEIB principles emphasise diversity, equality, inclusion and belonging. These policies foster diverse perspectives and innovation in the workplace, while ensuring that employees feel valued and respected. Training and Professional Development UPS invests \$500 million annually in training for its employees to improve their skills. FedEx attracts talented individuals with skills-based hiring processes. Einride prepares future leaders with young leadership

development programs. Zipline offers professional development support to its employees. These efforts enable employees to advance their careers and adapt to their roles within the company. Employee Well-being and Support Zipline aims to enhance the overall well-being of employees through initiatives such as employee well-being practices (yoga, meditation), fostering psychological safety, and innovation laboratories. By providing a psychologically safe environment, Einride enables employees to feel secure and focus more on their work. Community and Social Responsibility UPS emphasises community service, highlighting its social responsibility awareness. Amazon demonstrates its social responsibility with its environmental justice policies. These companies strengthen their relationships with society and fulfil their social responsibilities by emphasising issues such as community service and environmental justice. Trends and Common Concepts The most emphasised concepts in the human resources policy theme are diversity and inclusion. These trends indicate that companies are prioritising diversity and inclusiveness in their workforce. Diversity was mentioned four times, reflecting that these companies encourage different perspectives and innovation. Inclusion was mentioned three times, ensuring that employees feel valued and accepted.

8. Conclusion and Evaluation

Sustainability in the logistics sector is gaining increasing importance in terms of environmental, social, and economic aspects. This study examined the fundamental elements and implementation strategies of sustainable transformation in the logistics sector. The study's findings reveal the critical roles of environmental innovations and human resource policies in achieving sustainability goals in the sector.

Environmental Contributions: Logistics companies have successfully reduced their carbon footprint in the sector through environmental strategies, including reducing emissions, utilizing renewable energy, and implementing energy efficiency measures. Companies such as UPS, FedEx, and DHL are taking steps toward achieving their CO₂ emission reduction targets and net-zero carbon goals. Maersk's use of green methanol and Einride's rapid decarbonization strategies, in line with the IPCC reports, demonstrate that the importance of environmental sustainability in the logistics sector is increasing. Environmentally friendly practices, such as the use of electric vehicles and tree planting, have increased companies' contributions to nature and placed sustainability at the core of their business models. For example, the efforts of UPS and Amazon in this area are leading the way for sectoral transformation.

Human Resources Policies: Investments in diversity, inclusion, and employee well-being are factors that reinforce sustainable success in the logistics sector. Companies such as UPS, FedEx, DHL, and Amazon aim to increase diversity in their workforces and create inclusive work environments. DHL's DEIB principles (Diversity, Equity, Inclusion, and Belonging) emphasize the concepts of diversity, equality, inclusion, and belonging. These policies foster diverse perspectives and innovation in the workplace, while ensuring that employees feel valued and respected. Focusing on the professional development and psychological safety of employees leads to significant improvements in terms of organisational commitment and productivity. UPS and FedEx's training investments make their employees more competent, thereby supporting the sustainable growth of their businesses.

Research Findings and Recommendations: This research demonstrates that various strategies for sustainable transformation in the logistics sector can be successfully implemented and how these strategies reinforce environmental, social and economic responsibilities. However, broader collaborations and policy recommendations are needed to overcome the challenges and obstacles faced by the sector. It is recommended that logistics companies develop more innovative and environmentally friendly strategies to achieve their sustainability goals. Deepening efforts to increase diversity in human resources policies will support the long-term success of organisations. Companies should strengthen their relationships with society by reporting their sustainability policies in a more transparent and accountable way. Governments and policymakers can accelerate the transformation process in the logistics sector by setting sustainability standards. Sustainable transformation in the logistics sector is a process that supports not only environmental but also social and economic development. For this transformation to be successful, sector stakeholders must cooperate and integrate sustainability principles into their business strategies. The efforts of logistics companies in environmental innovations and human resource policies play a crucial role in achieving sustainable success. This study emphasises the importance of critical strategies and practices in achieving sustainability goals in the logistics sector and draws attention to the need for wider adoption of these strategies.

Acknowledgement: We sincerely thank Usak University for providing the support and academic environment necessary for the completion of this research. We are grateful to the faculty and staff for their valuable guidance and resources. Their encouragement and assistance greatly contributed to the success of this work.

Data Availability Statement: The data supporting the findings of this study can be obtained from the corresponding author upon reasonable request.

Funding Statement: This study was conducted without any external financial assistance or sponsorship.

Conflicts of Interest Statement: The authors declare no conflicts of interest related to this research. All sources have been duly acknowledged.

Ethics and Consent Statement: The study strictly adhered to ethical standards, obtaining informed consent and maintaining participant confidentiality.

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