

An Exploratory Study on Fair and Responsible Logistics in the Context of Sustainable Supply Chain Management



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Abstract

The fact that sustainability in supply chains is mostly addressed in the environmental dimension has caused the studies addressing the social dimension of sustainability to remain limited in the literature. The need to contribute to the literature to fill this gap in fair and responsible logistics practices and research on the social dimension of sustainability has been the main driving force behind the realisation of this study. The study aims to reveal the dimensions of fair and responsible logistics practices and to raise awareness on this issue by investigating fair and responsible logistics practices with the exploratory research method. The study also investigated the advantages of fair and responsible logistics practices, as well as the difficulties encountered. In order to achieve the aim of the study, the data obtained from secondary sources was evaluated together with the literature review, and in this direction, the sustainability studies of three multinational companies operating in the food, technology, and e-commerce sectors were examined. The study concluded that fair and responsible logistics practices have different environmental and social sub-dimensions. It has been observed that fair and responsible logistics practices have achieved positive results in ensuring social justice in business processes and protecting natural resources and the environment.

Keywords: Fair and Responsible Logistics, Supply Chain Management, Sustainability, Social Responsibility, Environmental Sustainability

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Sürdürülebilir Tedarik Zinciri Yönetimi Bağlamında Adil ve Sorumlu Lojistik Üzerine Keşifsel Bir Çalışma

Öz

Tedarik zincirlerinde sürdürülebilirliğin daha çok çevresel boyutta ele alınması sürdürülebilirliğin sosyal boyutunu ele alan çalışmaların literatürde sınırlı düzeyde kalmasına neden olmuştur. Sürdürülebilirliğin sosyal boyutunu ele alan adil ve sorumlu lojistik uygulama ve araştırmaları ile ilgili ortaya çıkan bu boşluğun doldurulması yönünde literatüre katkı sağlanması ihtiyacı ise bu çalışmanın gerçekleştirilmesindeki temel itici güç olmuştur. Çalışma, keşifsel araştırma yöntemi ile adil ve sorumlu lojistik uygulamalarını inceleyerek, adil ve sorumlu lojistik uygulamalarının boyutlarını ortaya koymayı ve bu konuda farkındalık oluşturmayı amaçlamaktadır. Çalışmada ayrıca adil ve sorumlu lojistik uygulamalarının avantajlarının yanı sıra karşılaşılan zorluklar da araştırılmıştır. Çalışmanın amacına ulaşmak için ikincil kaynaklardan elde edilen veriler literatür taraması ile birlikte değerlendirilmiş, bu doğrultuda gıda, teknoloji ve e-ticaret sektörlerinde faaliyet gösteren üç çok uluslu şirketin sürdürülebilirlik çalışmaları incelenmiştir. Çalışmada adil ve sorumlu lojistik uygulamalarının farklı çevresel ve sosyal alt boyutları olduğu sonucuna varılmıştır. Adil ve sorumlu lojistik uygulamalarının iş süreçlerinde sosyal adaletin sağlanmasında, doğal kaynakların ve çevrenin korunmasında olumlu sonuçlar elde ettiği görülmüştür.

Anahtar Kelimeler: Adil ve Sorumlu Lojistik, Tedarik Zinciri Yönetimi, Sürdürülebilirlik, Sosyal Sorumluluk, Çevresel Sürdürülebilirlik

Introduction

Meeting the needs of the present without compromising the ability of future generations to meet their own needs is seen as a fundamental element of sustainable development (WCED, 1987). Sustainability is considered in three main dimensions: economy, environment, and society (Mejías et al., 2016), and for businesses, it is defined as the ability to do business in line with these dimensions (Hassini et al., 2012). Supply

chain management and logistics operations (Kamacı & Öz, 2021), which cover the forward and backward flows of the processes from the point of origin to the delivery of the products produced to meet the needs of the customers, are important strategic elements in the global economic order (Andersen & Skjoett-Larsen, 2009). Sustainable supply chain management is defined as collaborative management derived from the needs of stakeholders and customers, taking into account sustainable development, environmental, economic, and social dimensions, as well as ensuring the continuity of capital, material, and information flows between businesses along the supply chain, and aiming to achieve sustainability goals at every stage of the supply chain (Seuring, 2013).

In supply chain management, which aims to realize sustainable competitive advantage by providing customer satisfaction at the highest level, it is important for businesses to follow sustainable policies in order to establish long-term strategic relationships between businesses (Hoejmose et al., 2014; Schinckus et al., 2019). Considering that competition between businesses now takes place between supply chains, it is also seen that sustainability concerns on a global scale are increasing day by day (Andersen & Skjoett-Larsen, 2009; İncaz, 2015). For this reason, the issue of not jeopardizing the needs of future generations while carrying out activities to meet customer needs is among the main priorities in supply chains and logistics operations (Çamlıca & Akar, 2014). Sustainability is a critical issue for businesses and supply chains today and has become an increasingly important concept for logistics operations (Ergen Işıklar & Yeşiltuna, 2022). The efforts of supply chains to achieve competitive advantage in logistics activities, which include the most key functions in a workflow, have led to new approaches to environmental protection and resource reuse in logistics (İncaz, 2015). The intersection between staying competitive and the need to increase sustainability has led to the development of a new strategy called fair and responsible logistics (Tekin et al., 2017).

Fair and responsible logistics refers to the conduct of logistical activities based on the principles of ethics, fairness and social responsibility,

and promotes a social-responsible transformation. The main objective of this approach is to make logistical operations compatible with environmental sustainability and to ensure social justice. While fair logistics practices require taking into account the needs of society, occupational health, human rights, equality, and fairness in the workforce in logistics activities, responsible logistics requires the adoption of environmentally friendly strategies with practices such as recycling, waste reduction, energy efficiency, and carbon footprint reduction. Logistics providers are expected to support the enhancement of social welfare and provide them with new revenue-generating services (DHL Trend Research, 2020; Sayın, 2022; Tekin, 2022).

However, in the literature, studies addressing sustainability mostly in the environmental dimension have been conducted, and studies with the social dimension of sustainability in both academic and practical dimensions have remained limited (D'Eusanio et al., 2019; Senir & Büyükkeklik, 2023; Turgut & Budak, 2022). Addressing fair and responsible logistics practices in the context of sustainable supply chain will contribute to filling this gap in the literature. In this direction, identifying the prominent elements of fair and responsible logistics practices and bringing them to the literature will guide both researchers and practitioners in future studies. This study aims to raise awareness by revealing the application dimensions of fair and responsible logistics and the advantages they provide, as well as the difficulties encountered.

Conceptual Framework

Innovations such as social responsibility, environmental awareness, climate change, etc. brought about by social, economic, and environmental transformation processes are among the most important factors that bring the concept of sustainability to the forefront (Ergen Işıklar & Yeşiltuna, 2022). Sustainability can be defined as meeting the needs of today without compromising the needs of future generations (Mani et al., 2016). The importance of sustainability, which is also seen as the ability to be permanent, has been increasing recently (Çamlıca & Akar, 2014;

Mücevher, 2021). Although a concise definition of sustainability has not emerged, there is a consensus on the need to integrate social, environmental, and economic factors into the decision-making processes of organizations (Hader, 2018). In the corporate context, sustainability can be defined as meeting the needs of direct and indirect stakeholders, such as employees, shareholders, customers, regulators, and society, without jeopardizing the needs of future stakeholders (Mani et al., 2016). This situation causes the concept of sustainability to be handled in a strategic manner for businesses. The survival of businesses will only be possible with the existence of sustainable natural, economic, and social environments.

Supply chain management encompasses the management of all activities, information, and fund flows that enable the production and transformation of products from the initial stage to the end user. Achieving a sustainable competitive advantage depends on integrating these activities through improved supply chain relationships (Gedik, 2021). Sustainable supply chain management is defined as the management of resources, information, and funds to maximize the profitability of the supply chain while minimizing environmental impacts and maximizing social welfare (Taticchi et al., 2013). In contrast to traditional supply chain management, sustainable supply chain management broadens the approach to economic and financial business performance and focuses on integrating environmental and social objectives (Brandenburg et al., 2014; Florescu et al., 2019). Long-term collaborations with supply chain members will depend on their ability to meet customer needs through compliance with environmental and social criteria (Pupavac, 2022). This aims to increase social welfare and maximize supply chain profits while minimizing environmental impacts (Jayarathna et al., 2021; Seuring & Müller, 2008; Theeraworawit et al., 2022). Businesses can thus become proactive in addressing long-term environmental and social expectations in their supply chain activities (Florescu et al., 2019). Sustainable supply chains require a strategic corporate commitment to fair labor practices along with environmental protection at every stage (What's Driving Supply Chain Sustainability?, 2022). Logistics activities are also highly global

in nature and have many factors that can positively or negatively impact society socially, environmentally, and economically (Sayın, 2022). Therefore, it has become more important than ever for companies to expand their commitment to responsible business practices by integrating fair labor and environmentally sound practices throughout their supply chains (Danish Environmental Protection Agency, 2010). Since businesses began to realize that logistics activities are not just about transportation, new approaches in logistics have been necessitated by issues such as protecting the environment, reusing resources, and increasing social sensitivity as a result of efforts to achieve competitive advantage (Încăz, 2015). With the Logistics Trend Radar reports published by DHL Trend Research, a fair and responsible logistics approach has been put forward by taking stakeholder demands into account (Bubner et al., 2016). The intersection between the need to ensure the continuity of companies in global competition and the need to increase sustainability has led to a new strategy called fair and responsible logistics (Tekin, 2022).

The concept of fair and responsible logistics refers to the principles and practices that aim to carry out logistics activities in a sustainable and ethical manner. Fairness in logistics means treating all stakeholders in the supply chain, including employees, customers, and suppliers, fairly and respectfully, while responsibility means minimizing the negative impact of logistics activities on the environment and increasing trust and prosperity in the communities in which they operate through social responsibility (DHL Trend Research, 2020). Socially responsible activities in logistics are seen as the best method in sustainability practices to integrate sustainability efforts into supply chain processes (Mejías et al., 2016). In addition, when the impact of responsible logistics on the social dimension is considered, it is concluded that responsible logistics practices will make a significant contribution to the establishment of an understanding of social responsibility (Kauf, 2018), which reveals the social importance of fair and responsible logistics. In general, fair and responsible logistics practices involve promoting sustainability throughout the entire supply chain, from material procurement to product delivery to customers. This requires collaboration between companies, logistics

providers, and consumers to promote social and environmental responsibility while ensuring a lasting competitive advantage.

Reasons for Fair And Responsible Logistics

Increasing commercial activities and logistics mobility as a result of technological developments, industrialization, and globalization contribute greatly to the development of societies but also have negative impacts that threaten the ecosystem on a global scale (Dündar & Kolay, 2021; Senir & Büyükkeklik, 2023). The aim of sustainable supply chain management is to integrate and balance the performance of the supply chain in environmental, social, and economic dimensions (Koberg & Longoni, 2019). In today's globalized economy, where supply chains are becoming more complex and consumers are demanding more sustainable and ethical products and services, fair and responsible logistics operations are becoming increasingly important (DHL Trend Research, 2020). In terms of the logistics sector, environmental sustainability and the global warming problem stand out as the most serious problems. In particular, unconscious use of natural resources, deficiencies in waste management, an increase in emission rates, and individuals raised without environmental awareness play a major role in the increase in global warming. In particular, the problems of greenhouse gas emissions, noise pollution, and consumption of limited resources caused by activities such as transportation, inventory, and storage are seen as factors that reveal the importance of responsible logistics understanding (Dekker et al., 2012; Sayın, 2022).

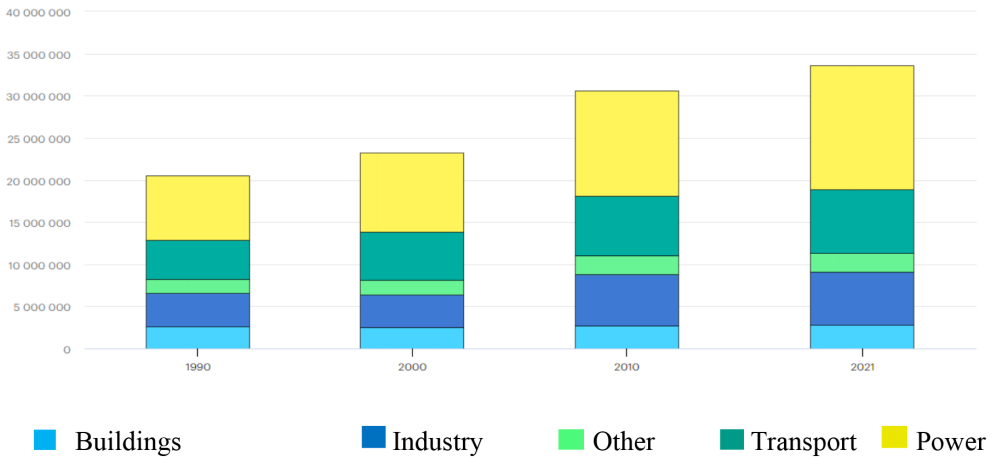


Figure 1. Global CO₂ Emissions from Fuel Combustion by Sectors

Emission rates are directly linked to the carbon emissions of the vehicles used in logistics activities. Since transportation activities are one of the most important parts of the logistics sector, it can be concluded that the logistics sector has a significant impact on global warming (Sayın, 2022). The transportation sector, where fossil fuels are used extensively, is seen as one of the most important sectors that cause environmental pollution and, thus, climate change with the emissions it generates.

According to the International Energy Agency 2021 data in Figure 1, the transportation sector is the second-most emitting sector in the world, with 7,631,462 ktCO₂ in the global carbon dioxide emission formation, which is 33,572,108 ktCO₂ in total. While the carbon dioxide emission of the transportation sector was 4,617,671 ktCO₂ in 1990, it has increased by approximately 65% in 31 years. According to the data, the transportation sector alone accounts for 23% of global carbon dioxide emissions (International Energy Agency, 2021). As a sector, transportation also produces 14% of global greenhouse gas emissions. As such, the sector has become one of the largest energy-consuming and carbon-emitting sectors in the world (Ma et al., 2018).

The carbon footprint is defined as the cumulative value of carbon di-

oxide emissions caused directly and indirectly by a product or an activity (Wiedmann & Minx, 2007). According to the Council of Supply Chain Management Professionals, 75% of a firm's carbon footprint is caused by logistics activities (Turgut & Budak, 2022). It is also stated that any disruption in logistics activities can cause an increase of approximately 20% in carbon emissions in the supply chain (Amiruddin et al., 2021). The sector is under great pressure to save energy and reduce emissions. In this direction, studies on responsibility and sustainability in logistics, where fossil fuels are intensively used, are carefully monitored by both researchers and governments (Ma et al., 2018; Senir & Büyükkeklik, 2023). Multinational firms are also developing various strategies to address carbon emission concerns. Firms set carbon emission targets and conduct greener operational processes with environmentally friendly vehicles and machinery to reduce their carbon footprint (Ghosh et al., 2020). In addition, empirical results showing that supply chains managed with environmental sensitivity can increase the corporate reputation of firms and provide competitive benefits (Hoejmose et al., 2014) support the view that sustainability activities will provide cost savings (Val et al., 2019) and contribute to the financial development of businesses by increasing the positive connotations of consumers towards businesses (Tiltay et al., 2021), thus clarifying the importance of responsible logistics activities.

Fair logistics practices are generally related to social responsibility in the supply chain, and social responsibility is seen as the dimension of sustainability that focuses on the human element (Al-Esmael et al., 2020). Social sustainability plays an important role in the realization of other sustainability initiatives, as social injustices at any level of the supply chain can cause significant losses in the execution of a sustainable supply chain. For companies, being socially responsible is defined as integrating ethical and fair trade principles into their supply chain and logistics processes. However, although it is necessary to focus on ethical principles, it is also revealed that it will be insufficient to achieve social responsibility in commercial life, so working conditions should be given importance (Carter & Jennings, 2004; Hemingway, 2005; Mani et al.,

2016; Strong, 1997). In order to develop a socially responsible strategy, all stages of the supply chain should be included in the process. Any disruption that may occur upstream in the process may have negative consequences downstream and for the final customer (Mani et al., 2018). It is also argued that there is a need to develop transparent responsibility measurements and focus on eliminating ambiguities, especially to avoid ambiguity and transparency and to avoid complexity in transferring responsibility between stakeholders in the supply chain (Eriksson & Svensson, 2017). Moreover, when an informed internal or external stakeholder holds a firm responsible for social issues in the supply chain, it forces firms to take fair and responsible actions (Yawar & Seuring, 2017). Companies are held responsible for the social and environmental impacts of the products they produce, but they are also responsible for their internal and external stakeholders. This is because a supplier's unethical behavior can negatively affect the social sustainability performance of the organization that purchases the product. Companies such as Nike and Apple have suffered due to their suppliers' use of child labor (Sancha et al., 2016). On the other hand, research on the social responsibility of logistics firms has revealed that they can gain significant opportunities in the logistics sector by acting ethically and responsibly towards both their employees and customers (Turoń, 2016).

To improve the collective social situation, firms need to address social phenomena within their own borders as well as the entire supply chain. Social dimensions such as employment, wages, accidents, working conditions, and human rights should be considered by all supply chain components (D'Eusanio et al., 2019). For this purpose, fair and responsible logistics practices have the main objectives of developing more sustainable logistics systems in the social dimension, improving economic instability, and minimizing environmental impacts through the more efficient use of multimodal transportation (Zulamir Hassani et al., 2021). Fair and responsible activities in logistics have a significant impact in three main areas. First, it can accelerate the development of the circular economy concept, which enables the reuse, renewal, or recycling of products that have reached the end of their life cycle. Second, so-

cial interaction can be increased, enabling access to opportunities to help improve opportunities for those with limited means. Third, responsibility and transparency in the supply chain can be increased by promoting fair trade and production (Heutger, 2015). For this reason, the concept of fair and responsible logistics is becoming increasingly important in a global economy where products offered through sustainable activities with ethical values are more in demand (DHL Trend Research, 2020).

Methodology

The research is an exploratory and qualitative study in terms of methodology. Exploratory research aims to provide the necessary information for more comprehensive research by defining the subject or problem to be addressed and presenting it in different dimensions (Karabey, 2020; Karadoğan Doruk, 2019). In this study, an exploratory research approach was adopted in order to deepen the subject of fair and responsible logistics practices, understand the subdimensions of the subject, and contribute to providing the necessary infrastructure for more comprehensive research. Thematic content analysis, one of the qualitative research methods, was used to arrive at concepts and relationships that can explain the data obtained. Thematic content analysis helps to better understand the general framework of the research topic and determine priorities related to the subject by providing a holistic perspective (Çalık & Sözbilir, 2014).

In the study, data were obtained from secondary sources. First, the literature on human rights, labour standards and ethical practices was reviewed to support the exploratory nature of the study. The data obtained from secondary sources on the topic was then analysed using content analysis. The exploratory nature of the study required the selection of companies that stand out in terms of social dimensions, rather than a broad sectoral representation. Accordingly, the sustainability reports of leading multinational companies operating in the food, technology, e-commerce and logistics sectors were analysed, taking into account sectoral diversity and global activities, as they may have different approaches to social dimensions and are accessible.

Research

In this section, in order to reveal the dimensions of fair and responsible logistics practices in line with the purpose of the study, firstly, sustainability-related studies in the literature are discussed together with the advantages and challenges, and then sustainability studies in the supply chains of three multinational companies are examined in the context of fair and responsible logistics.

Castillo & Pitfield (2010) found that in their study, two of the five main sustainability indicators they used in the transportation sector are related to the social dimension: equality, social equity, and health and safety factors. In a qualitative study investigating the dimensions of social sustainability in the supply chain, it was revealed that equality, ethical practices, employee rights, child labour, wages, cooperation and philanthropy, harmony, education, health and safety constitute the dimensions of social sustainability (Mani et al., 2016). In addition, the social problems experienced in supply chain and logistics processes are stated as working conditions, child labour, human rights, health and safety, minority development, inclusion of persons with disabilities/special needs and gender, and it is concluded that it is important to protect human rights and prohibit child labour in supply chain processes (Yawar & Seuring, 2017). In a study conducted on SMEs, it was revealed that both SMEs and suppliers give high priority to social issues such as community involvement, employee benefits, safe working environment and health and safety, and that SMEs also attach importance to issues such as non-discrimination, employee training and human rights (Al-Esmael et al., 2020).

Zulamir Hassani et al. (2021) evaluated the logistics 4.0 practices that have developed with technological innovations and industrial transformation in the context of fair and responsible logistics and stated that fair and responsible activities include decent working conditions, consistency in quality, being responsible and fair in procurement, as well as more transparent communication in the supply chain and actions to cooperate with stakeholders. The study also suggested that corporate governance, customer service, and logistics information systems are import-

ant in promoting fair and responsible practices in the logistics industry. Corporate governance can support fair and responsible logistics practices by managing risks and promoting transparency and accountability; customer service by providing accurate information about deliveries in a timely manner; and logistics information systems by reducing waste and negative impacts on the environment through instant simultaneous monitoring of shipments and inventory levels.

Wang et al. (2022), identified eight factors in environmental, economic, and social dimensions in their study in which they measured sustainability in road transportation with CRMF. Two of the factors are related to the social dimension: the number of employees and road accidents. The others are capital investment, infrastructure maintenance, gross domestic product and fuel consumption, carbon dioxide emissions, and air pollution emissions. In supply chain management, businesses need to follow sustainable policies in order to create value for the customer and build long-term strategic relationships among the chain's stakeholders. When fair and responsible logistics practices are evaluated in the context of sustainable supply chain management, it is stated that acting in cooperation will provide some advantages and opportunities for businesses (Danish Environmental Protection Agency, 2010). Collaborative initiatives such as providing social performance trainings or solving social issues with suppliers can provide businesses with the knowledge and skills to improve their own social performance in the future (Sancha et al., 2016). Moreover, collaborative efforts by businesses to adopt social sustainability can reduce supply risk and improve performance in the context of emerging economies (Mani et al., 2018; Morais & Silvestre, 2018). Managing the supply chain responsibly with a sustainable approach can also have a significant impact on a firm's corporate reputation (Hoejmose et al., 2014). It is emphasized that service providers in logistics can improve the welfare of society and the environment by meeting potential demands while offering new revenue-generating services (DHL Trend Research, 2020; Tekin et al., 2017), thus moving forward in fulfilling the requirements of fair and responsible logistics. It is stated that if businesses operating in the logistics sector are fair and

responsible, they will not only be successful in sustainable supply chain management, but also their profitability will increase, and thus businesses can gain a competitive advantage (DHL Trend Research, 2020).

When the opportunities of Fair and Responsible Logistics practices are discussed in DHL Trend Research (2020), the following points are mentioned:

- The implementation of new services will create sustainable revenue streams for social and environmental value.
- Reductions in operating costs by reducing resource consumption and waste.
- Positive brand perception potential through practices will lead to increased customer and shareholder loyalty.

The report also states that the lack of a universal definition of what is fair and responsible will pose challenges in practice. In addition, social responsibility varies greatly from region to region and is difficult to measure, and changes in business mindset are needed to be successful in practice. Social responsibility and green logistics practices realized in sustainable supply chain management will help increase the image of the business among stakeholders (Ergen Işıklar & Yeşiltuna, 2022). Fair and responsible logistics brings with it a reduction in carbon emissions, a decrease in waste production, an increase in recycling, and social responsibility activities. Fair and responsible logistics activities, which are sometimes preferred by companies for internal and sometimes external concerns, will also increase social welfare (Sayın, 2022). It is stated that the high cost of environmental programs is one of the biggest challenges faced in making supply chains environmentally sustainable. In addition, it is stated that uneconomical recycling or reuse within the framework of responsible logistics practices and the lack of sufficient qualified human resources in this regard are the bottlenecks in practice. In addition, lack of awareness about sustainable supply chains and inadequate legal controls are seen as important obstacles to practices (Al-Odeh & Smallwood, 2012).

(Al-Esmael et al., 2020) addressed the challenges faced by supply chains in achieving social sustainability. Constraints such as lack of incentives and support, limited knowledge or reluctance of managers, economics and feasibility, high costs of implementation, and adequate human resources were identified as important obstacles to be solved. In addition, it was also stated that employee training is also important to be successful in sustainability efforts, so that operational risks can be reduced and corporate learning can be increased. In the study, managers stated that addressing social sustainability efforts created a positive impression among stakeholders, sustainable customer relations improved, and customer satisfaction increased along with loyalty and cooperation (Mani et al., 2016). In a study conducted by the Danish Environmental Protection Agency (2010), managers experienced that companies that fulfill fair and responsible activities increase their market share and have a more positive image by all stakeholders. It is stated that one of the problems that arise, especially in the social dimension, and make implementation difficult is that multinational companies place orders that exceed their capacity or impose unrealistic deadlines on their sub-suppliers. Suppliers, who do not have enough time to hire enough qualified staff to do the job, cause their employees to work heavy overtime in order not to lose the customer (Villena & Gioia, 2020). Boström et al. (2015) stated that there are governance challenges in realizing sustainable and responsible activities in supply chain processes. Especially in global supply chains, there is a need for governance arrangements that can meet the sustainability requirements of operational activities, including logistics in different regions. It is also stated that information gaps in the process will prevent the provision of reliable, comprehensive, and verified information on sustainability. Vaaland & Owusu (2012) highlighted limitations in selecting fair and responsible business partners, the need to integrate sustainability awareness into the core activities of all actors in the supply chain, and difficulties in meeting community expectations as key challenges.

Sustainability Practices

Ülker Biscuit

According to 2015 data, Ülker Bisküvi, which manufactures with 77 factories in 14 countries (www.ulker.com.tr), has presented its strategies as the world, value chain, employees, and society in its sustainability reports (Ülker 2022 Sustainability Report, 2022). The company has identified the climate crisis, water, waste, and wastewater, packaging, occupational health and safety, human rights, equal opportunity, ethics, compliance, and transparency as high-priority issues in sustainability.

The supply chain environmental and social sustainability activities they have implemented and planned in line with their sustainability report for 2022 can be explained as follows: In line with environmental concerns, in order to mitigate the effects of climate change, rainwater harvesting and recovery of industrial water through treatment are carried out with the strategy of efficient use of water resources. The recycled water is planned to be used in cooling towers and garden irrigation.

Setting a net zero target for 2050, the company calculated Scope 3 emissions from raw material production to final consumption in order to monitor the impacts along the supply chain. By investing in renewable resources in all its factories and logistics facilities, the company has supplied 43% of its electricity consumption in 2022 from these sources, and it aims to supply all of its electricity needs from renewable sources by 2030.

The company started to use rail transportation as an alternative to road transportation in order to reduce carbon emissions. In this way, it prevented a total of 1560 tons of CO₂ emissions in 2022. With the improvements made in logistics activities, a total of 4402 tons of CO₂ emissions were prevented compared to 2014. By 2030, the company aims to reduce its logistics-related carbon emissions by 30% compared to 2019.

It also reduced carbon emissions per unit of production by 22.5% and water use by 39.5% compared to 2014. It has also reduced the rate of returned packaging by 65% and the rate of parcels by 99% compared to

2014. Within the scope of the goal of 100% recyclable, recyclable, and compostable packaging of the products put on the market, the company reduced the rate of waste going to landfills by up to 3%. In this direction, the company cooperates with licensed companies and carries out innovation studies for packaging reduction. The company develops recyclable and less waste-generating packaging with different materials and innovative designs and works to limit the use of PVC and PET packaging.

The company prioritizes ethical values in its business processes and has adopted ethical principles, including anti-corruption and anti-bribery regulations in stakeholder relations. They organize trainings with blue-collar personnel so that stakeholders in their supply chains can also adopt ethical principles and integrate them into their business processes. In addition to these efforts, they keep compliance with human rights and ethical principles under control through social compliance audits conducted within the scope of the More than Cocoa project in the supply chain and logistics processes.

Thanks to the projects carried out in the supply chain, they carry out logistics processes in a way that can be monitored and controlled simultaneously from start to finish. Accordingly, they increased their vehicle occupancy rate to over 96% by taking advantage of economies of scale and saving approximately TL 2 million in transportation costs. A total of 9 million Turkish lira was saved in logistics operations, and logistics costs were reduced by 1.07% compared to 2021. In this way, they achieved an 18.43% reduction in greenhouse gas emissions compared to 2014.

Meta Inc.

Meta Inc., one of the world's most valuable multinational companies, has included sustainable practices and plans in its 2021 Sustainability Report.

The company states that the best way to achieve success in sustainability-related activities is through open dialogue and collaboration with

end users, colleagues, suppliers, investors, non-governmental organizations, and policymakers.

The company stated that 21 Meta offices have received LEED (Leadership in Energy and Environmental Design) certification. Accordingly, they have saved approximately 38% of the water in their operations, for a total of 10.5 million gallons of water. Within the scope of the recycling project, 86% of the waste was recycled, preventing 32,000 tons of waste from going to landfills or incineration.

In 2021, they also launched a grant program to finance the activities of climate organizations in order to combat misinformation and misleading information on climate change.

In 2030, the company set a net-class value chain emission target, prioritizing the use of fewer new products and materials with a lower carbon footprint by reusing server hardware components. The company collaborated with its supply chain components to calculate and report greenhouse gas emissions. In this direction, it is planned to provide training to suppliers on measuring greenhouse gas impacts, setting targets, and determining ways to reduce emissions. For any emissions that cannot be reduced, they aim to reduce the equivalent amount of greenhouse gas emissions through carbon emission reduction projects, prioritizing social and environmental benefits.

In their sustainability activities, they have carried out various analyses and research on basic employee sensitivity and efforts to directly interact with employees.

They set a target for 100% renewable energy use, and accordingly, they purchased renewable energy to meet the energy needs of their employees working from home. They used waste tracking and sorting technology in their processes to reduce waste, especially in food. They banned the use of single-use packaging and plastic water bottles in their facilities to realize circular economic practices.

The company aims to reduce its carbon emissions by 30% by 2030. To achieve this goal, they have focused on practices such as 40% ener-

gy savings in their operational processes, 50% waste reduction, a 100% sustainable service fleet, and a 40% reduction in solo commuter tours.

Amazon

Amazon, the technology company with the world's largest e-commerce site, published a report in 2022 and set out the supplier standards that will be valid as of 2023.

Amazon, which sets fair and ethical standards in supply chain processes, stipulates a minimum age of 15 or the minimum working age in the country where the work is carried out in terms of child labor. They specifically state that employees under the age of 18 should not be employed in a way that could jeopardize their health or safety and disrupt their education. Employee exploitation practices such as bonded, indentured, or forced labor, as well as dishonesty, violence, coercion, and discrimination, are not tolerated. Paying employees on time also mandates equal pay for work of equal value.

In addition to continuously improving energy efficiency, Amazon encourages the businesses it cooperates with to adopt practices to reduce energy consumption and greenhouse gas emissions. In this direction, it has made it mandatory to monitor greenhouse gas emissions in all processes in the supply chain, to set targets, and to document and report.

It is aimed at reducing fossil fuel consumption in logistics processes, using alternative modes of transportation in transportation activities, and reducing the consumption of natural resources, especially water, by protecting them. It has also deemed it necessary to responsibly transform or dispose of the waste generated by the activities carried out.

Results

This study examines fair and responsible logistics practices in the context of sustainable supply chain management through a literature review and examples from multinational companies. The findings obtained in line with the data obtained from the literature in order to reveal the dimensions of fair and responsible logistics are summarized in Table 1.

Table 1. Dimensions of Fair and Responsible Logistics

Sustainability Dimension	Application Size		Source/Literature
SOCIAL	Business Ethics and Fair Business Processes	Not employing child labor, respecting employee rights and not discriminating in supply chain and logistics processes.	Hemingway, 2005; Castillo & Pitfield, 2010; Mani et al., 2016; Yawar & Seuring, 2017; Al-Esmael et al., 2020
		Ensuring equality and social equity in operational processes.	
	Social Responsibility	Improving the welfare of society, making social responsibility practices a key element of logistics activities.	İncaz, 2015; Sancha et al., 2016; Mani et al., 2018; Al-Esmael et al., 2020; DHL Trend Research, 2020; Jayarathna et al., 2021; Sayın, 2022; Wang et al., 2022; Tekin, 2022
	Cooperation and Communication	Develop transparent accountability metrics and address uncertainties	Heutger, 2015; Sancha et al., 2016; Mani et al., 2016; Eriksson & Svensson, 2017; Zulamir Hassani et al., 2021; Pupavac, 2022
		Promote accountability by increasing collaboration across all processes in the supply chain	
Education Programs	Providing trainings to senior, middle and lower level employees, ensuring supply chain cooperation in training	Mani et al., 2016; Sancha et al., 2016; Al-Esmael et al., 2020	

ENVIRONMENTAL	Recycling and Waste	Promote the concept of circular economy and reduce waste	Heutger, 2015; Ma et al., 2018; Ghosh et al., 2020; Zulamir Hassani et al., 2021; Wang et al., 2022; Senir & Büyükkeklik, 2023
	Carbon Emissions	Promote the use of alternative modes of transport and reduce fossil fuel consumption in transportation	

Table Created by the Author

Again, in order to identify the dimensions of fair and responsible logistics in practice, the sustainable supply chain practices of three multinational companies were examined. The findings are summarized in Table 2.

Table 2. Fair and Responsible Logistics Implementation Dimensions, Activities and Targets

Sustainability Dimension	Application Size	Activities and Targets
Ülker Biscuit		
SOCIAL	Business Ethics and Training Programs	Organizing trainings to integrate ethical principles and working conditions into business processes
		Equal opportunity and ethical values
	Fair Business Processes and Supply Chain Collaboration	Human rights and social compliance audits in supply chain processes

ENVIRONMENTAL	Water Saving	Efficient use of water resources and rainwater harvesting
		Reducing water usage by 39.5%
	Renewable Energy	Target of 100% renewable energy use in all facilities (2030)
	Carbon Emissions	Use of rail transportation to reduce carbon emissions
		30% reduction in logistics-related carbon emissions by 2030
		Reducing unit carbon emissions per production by 22.5%
	Recycling	Target for packaging to be recyclable, recoverable and compostable
		Waste management and packaging reduction efforts for economic sustainability
Meta Inc.		
SOCIAL	Employee Focus	Focus on sustainability activities through direct interaction with employees and analysis
	Education Programs	Training suppliers on measuring greenhouse gas impacts, setting targets and reducing emissions
	Community Engagement	Engaging with end users, civil society organizations and policy makers through open dialogue and collaboration
	Grant Programs	Fighting disinformation by funding the activities of climate organizations
	Supply Chain Collaboration	Calculate greenhouse gas emissions and identify ways to reduce them in collaboration with suppliers

ENVIRONMENTAL	Water Saving	Saving 10.5 million gallons of water in LEED certified offices (38%)
	Recycling	Avoiding landfill by recycling 86% of waste (32,000 tons of waste)
	Renewable Energy	Energy supply to employees working from home with the goal of 100% renewable energy use
	Carbon Emissions	30% carbon emission reduction target by 2030
	Operational Efficiency	40% energy savings and 50% waste reduction targets in operational processes
	Circular Economy	Focus on circular economic practices by banning the use of single-use packaging and plastic water bottles
Amazon		
SOCIAL	Business Ethics	No tolerance for bonded labor, indentured labor, forced labor and exploitation
		Equal pay for equal work policy
		No child labor and compliance with the minimum age requirement
		Employees under 18 years of age should not be employed in a way that jeopardizes their health or safety
	Fair Business Processes	Setting fair and ethical standards in supply chain and logistics processes
	Supply Chain Collaboration	Collaborating with business partners to set and implement common goals on sustainability issues
ENVIRONMENTAL	Carbon Emissions	Improving energy efficiency and reducing greenhouse gas emissions
	Operational Efficiency	Reduce fossil fuel consumption in logistics and promote the use of alternative modes of transportation
	Circular Economy	Conservation of natural resources and reduction of consumption
	Recycling	Responsible recycling or disposal of waste

Table Created by the Author

When the findings in Table 2 are analyzed, it can be said that the practices of all three multinational companies are similar. When sustainability in the supply chain is considered from a fair and responsible logistics perspective, environmental concerns come to the forefront of the responsible logistics approach. Especially in operational processes, the emphasis on reducing carbon emissions, recycling, saving, and the circular economy shows that the focus is more on efficiency. With the fair logistics approach, ensuring justice in business processes and ethical practices are emphasized, especially in terms of fairness. In addition, it is emphasized that cooperation in the supply chain and training on sustainability should be applied to all segments in all processes of the supply chain. When Table 1 is examined, it is seen that the findings obtained from the literature have dimensions in line with social concerns, especially with the fair logistics approach. In order to increase the welfare of society and make social responsibility practices a key element of logistics activities, studies are carried out on fair business processes, and transparency and communication are included in the application dimensions, as well as ensuring cooperation to eliminate uncertainties by increasing accountability. In Table 1, it is also observed that responsible logistics dimensions have emerged in the direction of reducing carbon emissions and reducing waste by reducing fossil fuel consumption with studies on alternative transportation modes as a result of environmental concerns.

With this study, the advantages provided by fair and responsible logistics practices in the context of sustainable supply chain management and the challenges encountered in practice were also revealed. The findings obtained in this direction can be summarized as follows:

Advantages

1. Building Long-Term Relationships: Fair and responsible logistics practices support building long-term strategic relationships between supply chain stakeholders. This allows businesses to generate sustainable value by working with trusted partners (Danish Environmental Protection Agency, 2010; Florescu et al., 2019).

2. *Providing Knowledge and Skills*: Collaborative initiatives can provide businesses with the knowledge and skills to improve their social performance. In particular, social performance training and social problem solving with suppliers can be effective in this area (Sancha et al., 2016).

3. *Risk Mitigation and Performance Improvement*: Collaborative social sustainability efforts can reduce operational sustainability risk and improve business performance in the supply chain, especially in emerging economies (Mani et al., 2018; Morais & Silvestre, 2018).

4. *Positive Impact on Corporate Reputation*: Fair and responsible management of logistics activities in the supply chain can positively affect a firm's corporate reputation. This can contribute to increased trust among customers, shareholders, and other stakeholders (DHL Trend Research, 2020; Ergen Işıklar & Yeşiltuna, 2022; Hoejmoose et al., 2014).

5. *Creating New Revenue Streams*: Fair and responsible logistics practices can create sustainable revenue streams for social and environmental value through the implementation of new services (DHL Trend Research, 2020; Tiltay et al., 2021).

6. *Reduction in Operating Costs*: Reducing resource consumption and avoiding waste can lead to reductions in operating costs (DHL Trend Research, 2020; Theeraworawit et al., 2022).

7. *Strengthening Brand Perception*: Fair and responsible logistics practices can positively increase brand perception. It can provide a competitive advantage by increasing customer and shareholder loyalty (DHL Trend Research, 2020; Ergen Işıklar & Yeşiltuna, 2022).

Challenges

1. *Lack of Universal Definition*: The lack of a universal definition of fair and responsible can create difficulties in implementation and cause uncertainty for businesses (DHL Trend Research, 2020).

2. *High Costs*: The high cost of sustainability programs can hinder

the achievement of sustainability goals in supply chains (Al-Esmael et al., 2020; Al-Odeh & Smallwood, 2012).

3. *Governance Challenges in Different Regions*: The lack of governance arrangements to meet the sustainability requirements of operational activities in global supply chains can pose challenges (Boström et al., 2015).

4. *Uneconomicity of Environmental Issues*: The uneconomic nature of recycling or reuse can be among the challenges of sustainable practices (Al-Esmael et al., 2020; Al-Odeh & Smallwood, 2012).

5. *Lack of Awareness and Inadequate Regulatory Controls*: Lack of awareness and consciousness about fair and responsible logistics and inadequate legal controls are seen as one of the important barriers to implementation (Al-Odeh & Smallwood, 2012).6. *Human Resource and Capacity Issues*: When multinational companies place orders that exceed the capacity of sub-suppliers and therefore impose heavy overtime on employees, it can lead to social problems (Villena & Gioia, 2020).

Conclusion and Recommendations

Sustainable supply chain management aims for long-term collaboration by taking into account social, economic, and environmental dimensions. Logistics activities, which are a strategic element of supply chain management, are the main operations that can directly affect the environment and climate change. The principle of not jeopardizing the needs of future generations during the execution of logistics activities has started to be prioritized in supply chain management. With the realization that logistics activities are key elements in providing sustainable solutions, efforts to protect the environment and ensure the reuse of resources have led to new approaches in logistics.

The logistics sector plays an important role in the global economy today. However, there are increasing demands on sustainability from both customers and governments. Violations of ethical values are also common in the sector. Therefore, fair and responsible logistics opera-

tions are becoming increasingly important in today's globalized economy, where supply chains are becoming more complex and consumers are demanding more sustainable and ethical products and services (DHL Trend Research, 2020).

In this study, the sustainability practices of multinational companies operating in the food, technology, and e-commerce sectors are examined together with the existing literature to reveal the implementation dimensions of fair and responsible logistics and the advantages and challenges. Violation of ethical values in the logistics sector can occur at any point in the supply chain. Therefore, acting in accordance with ethical values at every stage of the supply chain is considered important for social sustainability. Fair and responsible logistics practices protect the rights of all stakeholders in the supply chain while at the same time ensuring environmental sustainability. DHL Trend Research (2020) emphasized that businesses need to promote greater transparency and openness to collaboration in order to be successful in their fair and responsible logistics strategy in supply chain and logistics management. Yawar & Seuring (2017) identified three different types of responsibility actions for businesses to address social concerns in supply chain and logistics processes and classified them as compliance strategies, communication strategies, and supplier development strategies. Compliance strategies are more based on codes of conduct, standards, auditing, and monitoring. These measures are initiated internally by a firm and supported externally by stakeholders. Communication strategies are seen as necessary to address stakeholder concerns, build a loyal customer base, and attract socially responsible investments in order to give legitimacy and accountability to the firm's socially responsible behavior. Supplier development strategies are defined as actions taken by firms to directly and indirectly develop and train suppliers to fulfill the demands of stakeholders. In the same direction, according to the results obtained from both the sustainability reports of the companies and the literature, it is emphasized that cooperation and transparency throughout the supply chain should be emphasized, and more work should be done on compliance and supplier development strategies. What needs to be considered in this regard is how in-

ternational firms can achieve success in global supply chains. Given that the management of social issues involves decisions that prevent a firm from engaging in unethical and socially unacceptable practices, what constitutes a social issue will vary widely among different stakeholders (Hoejmose et al., 2014). In addition, there is a need for the establishment of standards, training, and awareness-raising activities to promote fair and responsible logistics practices. These efforts will contribute to the protection of ethical values in the logistics sector and the creation of a sustainable future. By adopting fair and responsible logistics practices, supply chains will be able to reflect ethical values in operational processes, gain reputation in society, and gain a competitive advantage. In addition to external benefits, internal benefits such as employee satisfaction, motivation, and increased productivity can also be achieved. Fair and responsible logistics practices can also lead to positive outcomes such as ensuring social justice, protecting natural resources, and reducing environmental impacts.

The implementation dimensions of fair and responsible logistics and the studies that need to be carried out in order for these practices to be successful are the subject of this study and the findings obtained are evaluated in this section. There are limited number of studies on fair and responsible logistics in the international literature. The results obtained in this study show that there is a need for qualitative and quantitative research to fill the existing gaps. Some suggestions that can be focussed in future studies are presented below:

- Since the supply chain structure and social responsibility approaches of each sector are different, sector-based in-depth analyses will contribute to both academic literature and practices.
- Future studies can evaluate how international firms implement different social responsibility strategies in different regions and the effectiveness of these strategies.
- Technologies such as digitalisation, blockchain and artificial intelligence can support fair logistics practices by providing transparency and traceability in the supply chain. For this rea-

son, research can be conducted on the impact of technological developments on fair and responsible logistics practices.

- The effective involvement of stakeholders plays a critical role in the success of sustainable logistics practices. Future studies should examine how all stakeholders along the supply chain (suppliers, logistics providers, consumers) are involved in fair and responsible logistics practices and how cooperation and transparency can be increased in these processes.
- The importance of necessary training programmes and awareness raising activities for the dissemination of fair and responsible logistics practices has been revealed. Research focussing on this issue should be conducted.
- Standards to be established both on a sectoral basis and at national and international level will facilitate the adoption and implementation of fair and responsible logistics practices. The studies to be carried out to standardise the practices in enterprises are also important in this regard.

It is clear that fair and responsible logistics needs further research in terms of both academic and practical aspects. These studies should contribute to the implementation and protection of ethical values in logistics operations within supply chains. This study will guide both researchers and implementers with its findings, conclusions and recommendations.

Statement of Research and Publication Ethics

This research was carried out in accordance with the rules of scientific research and publication ethics.

Authors' Contribution Rates

The research was prepared by a single author.

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Geniřletilmiř zet

Srdrlebilir Tedarik Zinciri Ynetimi Baęlamında Adil ve Sorumlu Lojistik zerine Keřifsel Bir alıřma

Mřteri memnuniyetini en st dzeyde saęlayarak srdrlebilir rekabet avantajını gerekleřtirmeyi temel ama edinen tedarik zinciri ynetiminde iřletmeler arasında uzun vadeli stratejik iliřkiler kurabilmek adına iřletmelerin srdrlebilir politikalar izlemeleri nem kazanmaktadır (Hoejmose et al., 2014; Schinckus et al., 2019). Iřletmeler arasındaki rekabetin artık tedarik zincirleri arasında gerekleřtięi dřnldęnde kresel boyutta srdrlebilirlik kaygısının her geen gn arttıęı da grlmektedir (Andersen & Skjoett-Larsen, 2009; İncaz, 2015). Bu sebeple mřteri ihtiyalarının karřılanmasına ynelik faaliyetlerin yrtlmesi esnasında gelecek kuřakların gereksinimlerinin karřılanmasının tehlikeye atılmaması hususu tedarik zincirlerinde ve lojistik operasyonlarda temel ncelikler arasında yer almaktadır (amlıca & Akar, 2014). Srdrlebilirlik, gnmzde iřletmeler ve tedarik zincirleri iin kritik bir konu olmakla birlikte lojistik operasyonlar aısından da giderek daha fazla nem kazanan bir kavram haline gelmiřtir (Ergen Iřıklar & Yeřiltuna, 2022). Bir iř akıřındaki en kilit fonksiyonları ieren lojistik faaliyetlerde, tedarik zincirlerinin rekabet stnlęn elde etme abaları, lojistikte evrenin korunması ve kaynakların yeniden kullanımı hususlarında yeni yaklařımlara neden olmuřtur (İncaz, 2015). Rekabeti kalma ile srdrlebilirlięi artırma ihtiyaı arasındaki keřiřim ise adil ve sorumlu lojistik olarak adlandırılan yeni bir stratejinin geliřmesine yol aımiřtır (Tekin et al., 2017).

Geleneksel tedarik zinciri ynetiminin aksine srdrlebilir tedarik zinciri ynetimi, ekonomik ve finansal iřletme performansına ynelik yaklařımı geniřleterek evresel ve sosyal hedeflerle btnleřmeye odaklanmaktadır (Brandenburg et al., 2014; Florescu et al., 2019). Tedarik zinciri yeleri ile uzun dnem iřbirliklerinin saęlanabilmesi evresel ve sosyal ltlere uymaları ile mřteri ihtiyalarını karřılama kabiliyetlerine baęlı olacaktır (Pupavac, 2022). Bu durum, evresel etkileri en aza indirirken, sosyal refahı artırmayı ve tedarik zinciri kazancını en st dzeye ıkarmayı hedeflemektedir (Jayarathna et al., 2021; Seuring & Mller, 2008; Theeraworawit et al., 2022). Lojistik faaliyetler de doęası gereęi son derece kreseldir ve toplumu sosyal, evresel ve ekonomik olarak pozitif ya da negatif bir Őekilde etkileyebilecek birok faktre sahiptir (Sayın, 2022). Bu nedenle, Őirketlerin adil alıřma ve evre odaklı uygu-

lamalarını tedarik zincirleri boyunca entegre ederek sorumlu iş uygulamalarına olan bağlılıklarını genişletmeleri her zamankinden daha önemli hale gelmiştir (Danish Environmental Protection Agency, 2010). Adil ve sorumlu lojistik kavramı, lojistik faaliyetlerin sürdürülebilir ve etik bir şekilde yürütülmesini amaç edinen ilke ve uygulamaları ifade etmektedir. Lojistikte adalet; çalışanlar, müşteriler, tedarikçiler de dâhil olmak üzere tedarik zincirinde yer alan tüm paydaşlara adil ve saygılı davranılması; sorumluluk ise lojistik faaliyetlerin çevre üzerindeki olumsuz etkilerini en aza indirme, sosyal sorumluluk anlayışı ile de faaliyet gösterilen topluluklarda güven ve refahı artırma anlamına gelmektedir (DHL Trend Research, 2020). Sorumlu lojistiğin toplumsal boyuttaki etkisi ele alındığında sorumlu lojistik uygulamalarının sosyal sorumluluk anlayışının yerleşmesine önemli katkısı olacağı sonucuna varılması (Kauf, 2018) adil ve sorumlu lojistiğin toplumsal açıdan da önemini ortaya koymaktadır. Bu doğrultuda adil ve sorumlu lojistik uygulamalarında öne çıkan unsurların tespit edilerek literatüre kazandırılması bundan sonraki yapılacak çalışmalarda hem araştırmacılara hem de uygulayıcılara yol gösterici olacaktır. Bu çalışma ile adil ve sorumlu lojistiğin uygulama boyutlarının ve sağladığı avantajların yanında karşılaşılan zorlukların ortaya konması yoluyla farkındalığın artırılması amaçlanmıştır.

Araştırma, metodoloji açısından keşfedici ve nitel bir çalışmadır. Bu çalışmada adil ve sorumlu lojistik uygulamaları konusunu derinleştirmek, konunun alt boyutlarını anlamak ve daha kapsamlı araştırmalar için gerekli altyapının sağlanmasına katkıda bulunmak amacıyla keşifsel bir araştırma yaklaşımı benimsenmiştir. Çalışmada veriler ikincil kaynaklardan elde edilmiştir. Çalışmanın keşifsel niteliği, geniş bir sektörel temsilden ziyade sosyal boyutlar açısından öne çıkan şirketlerin seçilmesini gerektirmiştir. Bu doğrultuda, gıda, teknoloji, e-ticaret ve lojistik sektörlerinde faaliyet gösteren önde gelen çok uluslu şirketlerin (Ülker, Meta ve Amazon) sürdürülebilirlik raporları sektörel çeşitlilik ve küresel faaliyetler göz önünde bulundurularak analiz edilmiştir.

Çalışmada literatür incelemesi ve çok uluslu şirketlerden örnekler yoluyla sürdürülebilir tedarik zinciri yönetimi bağlamında adil ve sorumlu lojistik uygulamaları ele alınmıştır. Elde edilen bulgular özellikle operasyonel süreçlerde karbon emisyonunun azaltılması ve geri dönüşüm ile tasarruf ve döngüsel ekonomi üzerinde durulması daha çok verimlilik üzerinde odaklanıldığını göstermektedir. Adil lojistik yaklaşımıyla özellikle hakkaniyet ölçüsünde, iş süreçlerinde adaletin sağlanması ve etik uygulamalar önemsenmektedir. Bununla birlikte tedarik zincirinde işbirliğinin sağlanması ve sürdürülebilirlik konusunda eğitimlerin tedarik zincirinin tüm süreçlerinde tüm kesimlere uygulanması

gerektiği üzerinde durulmaktadır. Literatürden elde edilen bulgularda özellikle adil lojistik yaklaşımıyla sosyal kaygılar doğrultusunda boyutların oluştuğu görülmektedir. Toplumun refahını artırma ve sosyal sorumluluk uygulamalarını lojistik faaliyetlerin kilit unsuru haline getirme adına, adil iş süreçleri üzerinde çalışmalar yapıldığı, bununla birlikte hesap verebilirliğin artırılarak belirsizliklerin giderilmesi için işbirliğinin sağlanmasının yanında şeffaflık ve iletişimin de uygulama boyutlarının içerisinde yer aldığı görülmektedir. Yine çevresel kaygılar neticesinde alternatif taşıma modları ile ilgili çalışmalar ile fosil yakıt tüketiminin azaltılarak karbon emisyonunun düşürülmesi ve atıkların azaltılması yönünde sorumlu lojistik boyutlarının ortaya çıktı gözlemlenmiştir. Buna göre adil ve sorumlu lojistik uygulamalarının; *uzun vadeli ilişkilerin oluşturulması, bilgi ve beceri sağlama, risk azaltma ve performans artırma, kurumsal itibara olumlu etki, yeni geliş akışları oluşturma, işletme maliyetlerinde düşüş, marka algısını güçlendirme* gibi avantajları olduğu, bunun yanında; *adil ve sorumlu lojistikle ilgili evrensel tanım eksikliği, yüksek maliyetler, farklı bölgelerle yönetim zorlukları, çevresel sorunların ekonomik olmaması, farkındalık eksikliği ve yetersiz yasal denetimler, insan kaynağı ve kapasite sorunları* gibi dez avantajlara sahip olduğu da ortaya konmuştur.

Elde edilen sonuçlara göre tedarik zinciri boyunca işbirliğine ve şeffaflığa önem verilmesi gerektiği ayrıca uyum ve tedarikçi geliştirme stratejileri üzerinde daha çok çalışma yapmanın üzerinde durulmaktadır. Ayrıca, adil ve sorumlu lojistik uygulamalarının yaygınlaştırılması için standartların oluşturulması ile eğitim ve farkındalık çalışmalarına ihtiyaç duyulmaktadır. Bu çalışmalar, lojistik sektöründe etik değerlerin korunmasına ve sürdürülebilir bir geleceğin oluşturulmasına katkı sağlayacaktır. Tedarik zincirleri, adil ve sorumlu lojistik uygulamalarının benimsenmesi ile operasyonel süreçlerde etik değerleri yansıtabilecek, toplumda itibar kazanabilecek ve rekabet avantajı elde edebileceklerdir. Dışsal faydaların yanında çalışan memnuniyeti, motivasyon ve verimlilik artışı gibi içsel faydalar da sağlanabilecektir. Adil ve sorumlu lojistik uygulamaları, sosyal adaletin sağlanması, doğal kaynakların korunması ve çevresel etkilerin azaltılması gibi olumlu sonuçlara da neden olabilecektir.

Bu çalışma ile elde edilen sonuçlar mevcut boşlukları dolduracak daha fazla nitel ve nicel araştırmalara ihtiyaç duyulduğunu göstermektedir. Gelecek çalışmalarda, tedarik zinciri boyunca tüm paydaşların adil ve sorumlu lojistik uygulamalarına nasıl dahil edildiği, işbirliğinin ve şeffaflığın bu süreçlerde nasıl artırılacağı incelenabilir. Ayrıca teknolojik gelişmelerin adil ve sorumlu lojistik uygulamalarına etkisi üzerine araştırmalar yapılabilir. Gelecek çalışmalar, uluslararası firmaların farklı bölgelerde nasıl farklı sosyal sorumluluk stra-

tejileri uyguladığını ve bu stratejilerin etkinliğini değerlendirebilir. Yapılacak bu çalışmalar, tedarik zincirleri içerisinde lojistik operasyonlarda etik değerlerin uygulanmasına ve korunmasına katkı sağlar nitelikte olmalıdır. Bu çalışma ortaya koyduğu bulguları, sonuç ve önerileri ile hem araştırmacılar hem de uygulayıcılara rehberlik edecektir.