

## CUSTOMER ORIENTATION AND THE ACTIONS OF ENTERPRISES TOWARDS LOW-EMISSION LOGISTICS IN THE LIGHT OF RESEARCH

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**Purpose:** The main objective of the article is to identify what actions companies take in the context of customer expectations to reduce CO<sub>2</sub> emissions.

**Design/methodology/approach:** The results will be based on empirical research in the part concerning customer orientation in a research sample of 250 companies. The research was conducted in the first quarter of 2023.

**Findings:** We will indicate the activities that companies are implementing, will be implemented, and those that they will avoid, in order to meet the expectations of environmentally-oriented customers.

**Research limitations/implications:** Facing the green transition, the activities of companies in supply chains are changing dynamically. On the one hand, this is due to the fact that we adapt to changing legal regulations, and on the other hand, because of the expectations of customers. Of course, the year 2050, by which the European Union declared climate neutrality, is not without significance. Therefore, it is necessary to repeat the research presented in this article to conduct a comparative analysis, which may be the source of an interesting scientific discussion.

**Practical implications:** Identification of activities carried out by companies as part of the policy for low-carbon logistics in supply chains. The ability to observe changes introduced by other companies that are important to customers in order to gain a competitive advantage.

**Social implications:** Building awareness of the need to introduce changes in the operations of enterprises by meeting customer expectations in the field of low-carbon emissions. This is due to the fact that not only economic values, but also ecological and social values are increasingly important when deciding whether to buy the offered good / use a specific service.

**Originality/value:** The processes taking place in companies towards low emissions are important for customers, who are paying more and more attention to a pro-ecological lifestyle.

**Keywords:** low-carbon logistics, customer zero, ISO 9001:2015, sustainability.

**Category of the paper:** Research paper.

## 1. Introduction

This article is a summary of some empirical research conducted at the Department of Economic Logistics of the University of Economics in Katowice. The research team took up the topic of *Determinants of the development of low- and zero-emission logistics in supply chains and networks* bearing in mind that it is still poorly recognized.

*Low carbon logistics means that the processes of logistics, based on the goals of low energy consumption, low pollution, and low emissions, use the technology of energy efficiency, renewable energy, and reducing greenhouse gas emissions to restrain the harm to environment, which would be also helpful for the purification of the logistics environment and get the full use of logistics resources* (Zhang et al., 2014).

In the first part of the research, the author analyzed the rationale for the implementation of low-emission logistics and indicated the reasons why the decision to adapt to changes that contribute to the reduction of CO<sub>2</sub> emissions is prolonged over time (see Zwolińska, 2023).

This article focuses on activities related to low-emission logistics in the surveyed enterprises, which are influenced by current and potential customers, along with an indication of the degree of their impact. It will also indicate the activities that companies are implementing, will be implemented, and those that will not be undertaken to meet the expectations of pro-ecological customers.

The research was conducted in the first quarter of 2023. The tool used was an electronic questionnaire supported by phone. A total of 250 companies were surveyed. In Poland, there has been no extensive research on the development of low-emission logistics in supply chains so far, which was an interesting research gap from a scientific point of view. One of the aspects discussed in the above-mentioned empirical research was the rationale for the implementation of processes related to low-emission logistics in supply chains, including customer orientation.

## 2. Customer orientation

The turbulence of the environment has caused modern companies to adjust their strategies in the fight for customers so as not only to meet their needs on an ongoing basis, but also to keep them in the status of "regular customers". This is not easy as the new generation of consumers, the so-called zero consumers, pay special attention to their own health and environmental issues, and at the same time they are a very selective and disloyal group. Although it should be noted that when making purchasing decisions, they are not always ready to pay more for a product with the ECO mark (see more: Kong et al., 2014; Hang, Fong, 2010; Biswas, Roy, 2016). These consumers meticulously check whether a given company has

a policy of sustainable development and cares about the environment (see RP, 2023; Ricci, Banterle, 2020).

Customers expect companies to provide them with 7W (7Right) operations, i.e. access:

- to the right product,
- in the right amount,
- in the right conditio,
- in the right place,
- at the right time,
- for the right customer,
- at the right cost.

On the other hand, companies more and more often declare and expose a pro-quality attitude and, as a consequence, implement the ISO 9001:2015 standard, which in its main part includes: organizational context, leadership, planning, support, operational activities, performance evaluation and improvement. On the other hand, the principles of quality management in the above-mentioned standard include:

- customer orientation,
- leadership,
- involvement of people,
- process approach,
- improvement,
- subtracting decisions on the basis of evidence,
- relationship management.

Thus, when analysing the requirements of ISO 9001:2015, one can see that one of its main requirements is customer orientation (Chapter 5). In this respect, the standard focuses on:

- maintaining increased customer orientation,
- identifying and taking into account the risks and opportunities that affect the compliance of products and services,
- customer's requirements to be understood and consistently met.

Analyzing the ISO 9001:2015 standard, it can be concluded that the primary goal of quality management is to meet customer requirements by creating value for them.

The European Foundation for Quality Management has developed the EFQM Excellence Model, which enables entrepreneurs to self-assess their customer satisfaction as well (Dima, Vitzilaiou, Glykas, 2022). *The EFQM Excellence Model assumes the existence of three levels of excellence, which correspond to a three-level program of awards and distinctions. By conducting a self-assessment, organizations can place themselves on one of three levels, and the existence of levels of excellence is a stimulus for further improvement* (Brajer-Marczak, 2016, p. 13). The recognized levels of excellence are: Committed to Excellence (C2E), Recognised for Excellence (R4E) and Excellence Award (EEA).

As noted by Widelska U. (cf. Widelska, 2020, pp. 4-5) *Customer orientation is part of the concept of the value chain, thus going beyond the buy-sell relationship (...)*. The concept continues to evolve and today's customer orientation is determined by:

- *Changing the role and behaviour of consumers – the consumer is becoming more and more active and has the opportunity to interact more closely with the company, boldly expressing their opinions and expectations using social networking sites.*
- *development of mobility – universal and unlimited access to the Internet enables the exchange of information on a global scale.*
- *the use of additional tools to monitor consumer behaviour.*
- *the widespread use of CRM systems that provide up-to-date knowledge about customers.*

As already mentioned, zero consumers are focused on price and quality, but companies need to demonstrate that they care about the health and well-being of people and of the planet. If two brands are similarly priced, the zero consumer will buy the one that markets itself as sustainable or purpose oriented. According to a recent study of US consumer spending by McKinsey and NielsenIQ, products with environmental, social, and governance (ESG)–related labels (such as "eco-friendly", "vegan" or "plastic free") had higher sales growth than products that made no ESG-related claims on their packaging (Das, Kalia, Kuijpers, 2023).

Therefore, from the researcher's point of view, it was interesting to analyze the activities carried out by enterprises in the context of customer expectations in terms of reducing CO<sub>2</sub> emissions.

### **3. ANALYSIS OF RESEARCH RESULTS**

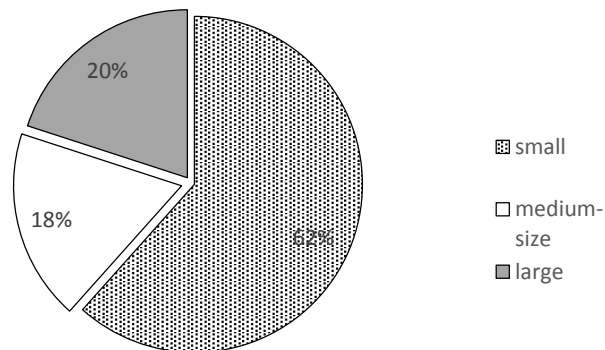
The empirical research, which included 250 enterprises, was conducted in the first quarter of 2023 using an electronic questionnaire assisted by phone. The structure of the surveyed group of companies is as follows:

- Subgroup 1-200 small and medium-sized enterprises.
- Subgroup 2-50 large enterprises.

It should be noted that within the individual subgroups, the selection to the sample was quota-based, taking into account the dominant type of activity conducted according to the Polish Classification of Activities (PKD). This means that the sample within subgroup 1 reflected the structure of the general population of small and medium-sized enterprises and within subgroup 2 large enterprises operating in Polish.

As part of the analysis of the research results, the methods of descriptive statistics (including measures of the structure of collectivity and interdependence of phenomena) and statistical inference were used.

The group of respondents was dominated by owners and representatives of senior and middle management – a total of 60% of respondents. On the other hand, 40% of the respondents were people who held specialist positions in these companies.

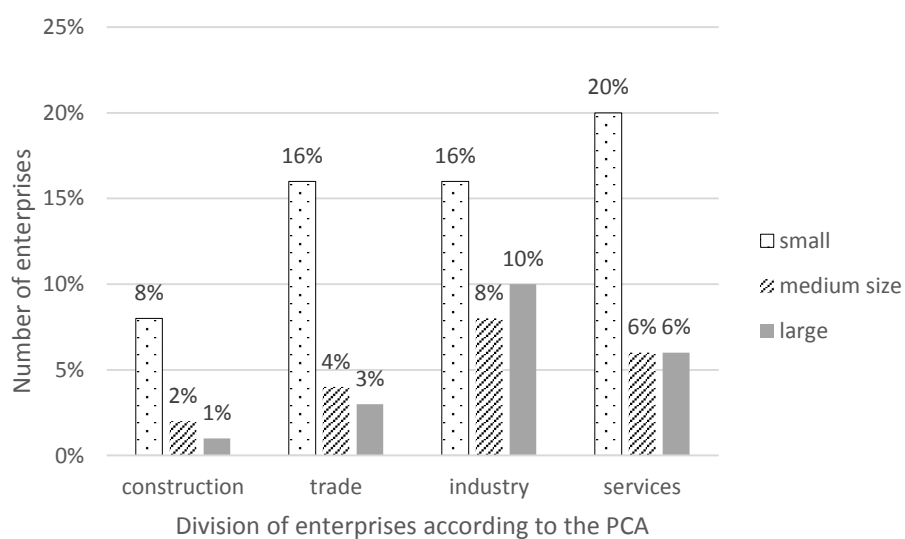


**Figure 1.** Company size.

As mentioned earlier, 250 enterprises were surveyed, of which 80% were enterprises employing between 10 and 249 people and 20% were enterprises with 250 or more employees (Figure 1).

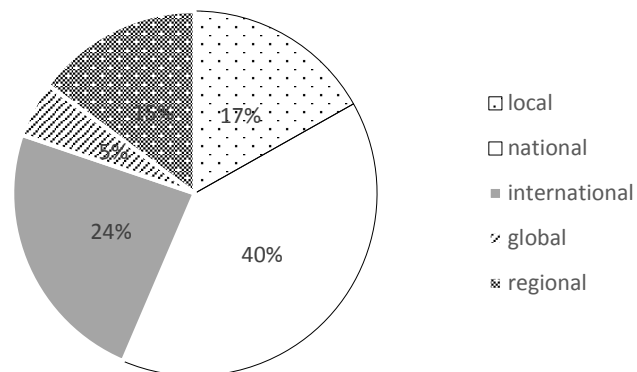
The structure of the surveyed enterprises, taking into account the PKD code sections in accordance with the principle adopted by the Central Statistical Office (GUS, 2023, p. 22), is as follows: Figure 2.

The following sections have been assigned to the term "industry": B, C, D and E – "industry", in addition, section F – "construction", G – "trade", from H to S – is included in a joint category under the name "services". 34% (86 entities) of enterprises were classified in the industry category, 11% (21 entities) in the construction category, 23% (57 entities) in the trade category and 32% (80 entities) in the services category.

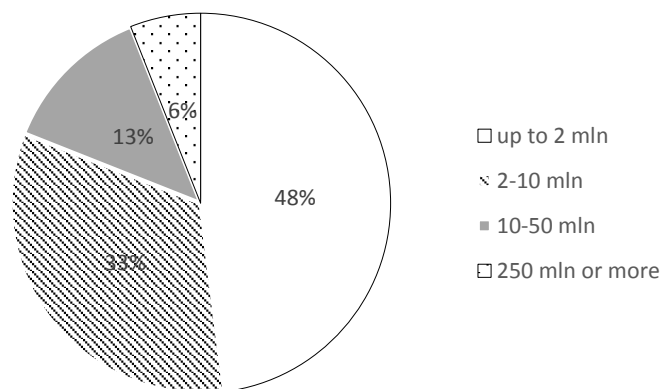


**Figure 2.** Structure of the surveyed companies.

The geographical scope of the respondents included companies from the local, regional and national markets, which accounted for 72%, i.e. 179 entities, and the remaining 28%, i.e. 71, were companies with an international and global reach (Figure 3).

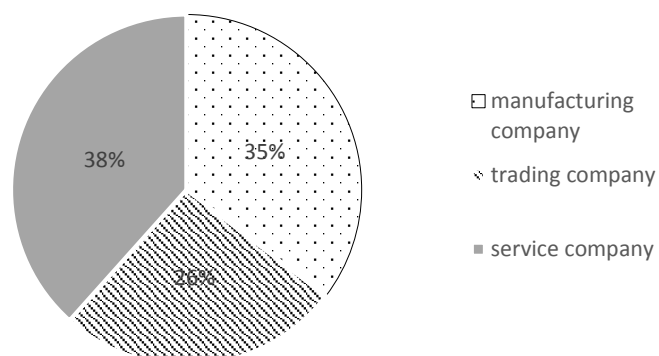


**Figure 3.** Geographical scope of the company.



**Figure 4.** Annual net turnover (in Euros).

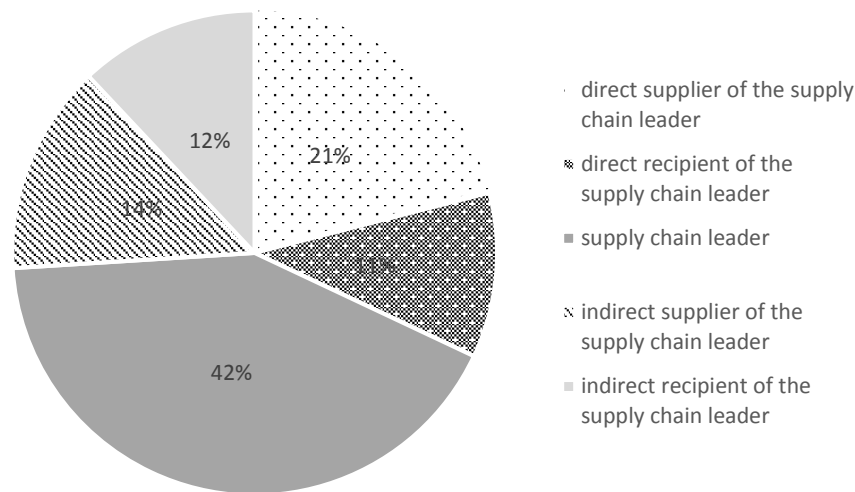
Respondents also commented on the annual net turnover (in euros). These results are shown in Figure 4. Nearly half of the surveyed companies declare a turnover of up to EUR 2 million, 33% (82 entities) a turnover of up to EUR 10 million, 13% (33 entities) a turnover of up to EUR 50 million, and the remaining 6% (15 entities) of EUR 250 million and more.



**Figure 5.** Type of company.

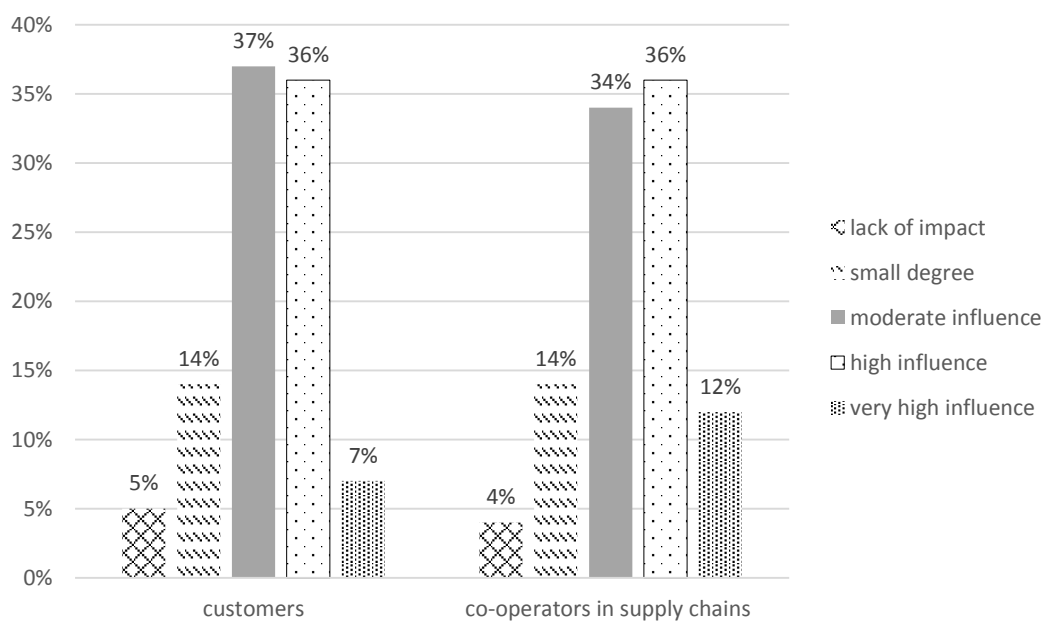
The study concerned 35% (88 entities) of manufacturing enterprises, 26% (66 entities) of commercial enterprises, and 38% (96 entities) of service companies (Figure 5).

Respondents were also asked about their position in the supply chain. The results are as follows: 14% (36 entities) are indirect suppliers of the supply chain leader, 21% (52 entities) are direct suppliers of the supply chain leader, 42% are supply chain leaders (105 entities), and 11% (27 entities) are direct recipients of the supply chain leader, indirect recipients of the supply chain leader 12% (30 entities) (Figure 6).



**Figure 6.** Position in the supply chain.

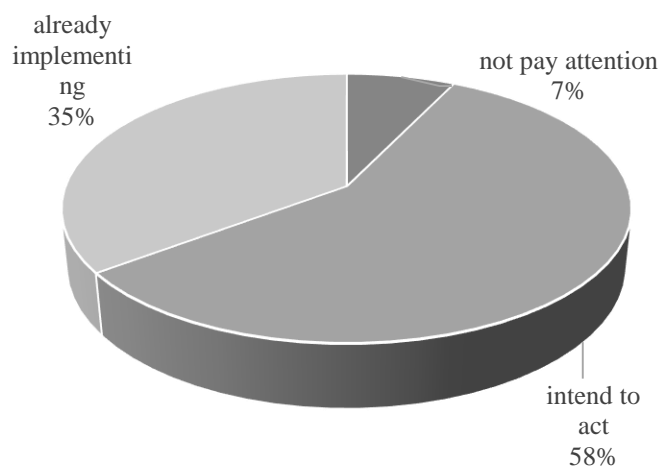
As part of the study, the surveyed representatives of 250 business entities were asked about the potential impact of the requirements of customers and partners in supply chains on decisions to implement technology that reduces CO<sub>2</sub> emissions.



**Figure 7.** Assessment of the potential impact of customer and co-operator requirements in supply chains on decisions to implement technology that reduces CO<sub>2</sub> emissions.

As we can see, both for the customers and supply chain partners, the answers are very similar. The strength of customers' influence to a small degree or lack thereof accounted for 19% of customers and 18% of cooperators, moderate influence of 37% and of cooperators 34%, high and very high influence of customers 43% and co-operators 48%. Therefore, regardless of whether it is a stakeholder of the supply chain or an end customer, companies take their opinions into account because the cooperators can use pressure to implement technology that reduces CO<sub>2</sub> emissions, e.g. due to the formal requirements of cooperation. In the case of customers, there is an increasingly conscious approach to the purchasing process.

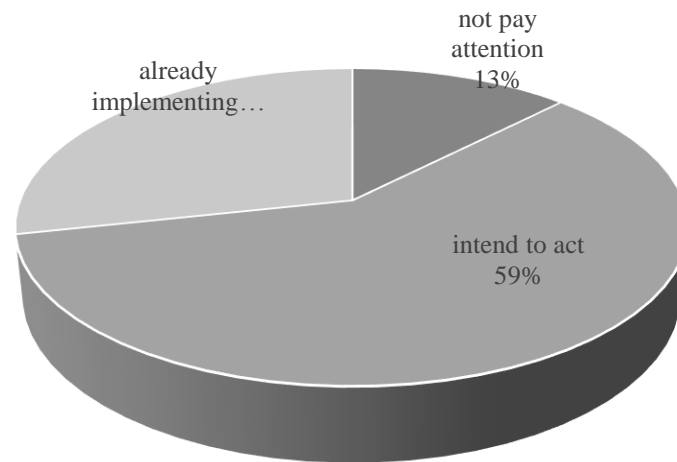
The next question concerned the attitude of the respondents to caring for the image of the company as the one that operates in accordance with the principles of sustainable development. The premise for this question was the research conducted by A. Rudnicka (2018, p. 104), who states that: *the websites of companies did not contain information about activities undertaken in such currently developed areas of logistics as e.g. low-carbon warehousing or, more broadly, energy efficiency. There was also no indication of how to build relationships as part of improving environmental performance in the supply chain.*



**Figure 8.** Sustainability.

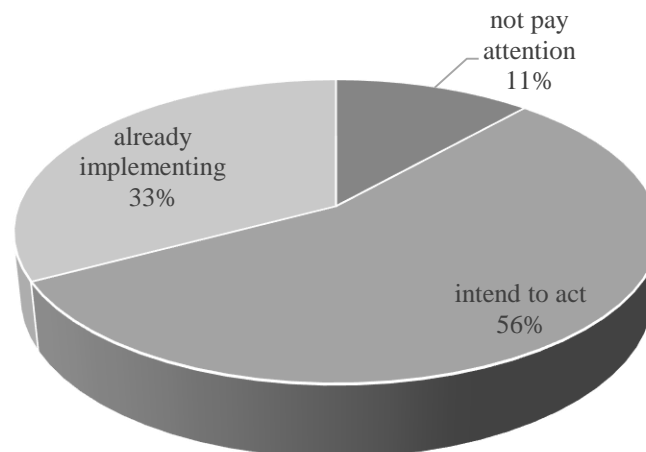
58% of companies declare that they intend to act in accordance with the principles of sustainable development, and in 35% they are already implementing this policy. Only 7% of companies will not pay attention to this fact, probably due to the scope of services they provide or the sale of products that are basic goods and their purchase by the customer is necessary to satisfy them. Moreover, as Wilk I. (2018, p. 640) points out, not all pro-ecological activities will be externalized by enterprises, as *they try to be a "good corporate citizen" in the area of environmental protection, but do not focus on publicizing and promoting their pro-ecological initiatives. Instead, they aim to reduce costs and improve efficiency through environmental measures, thereby creating a cost-based competitive advantage.*





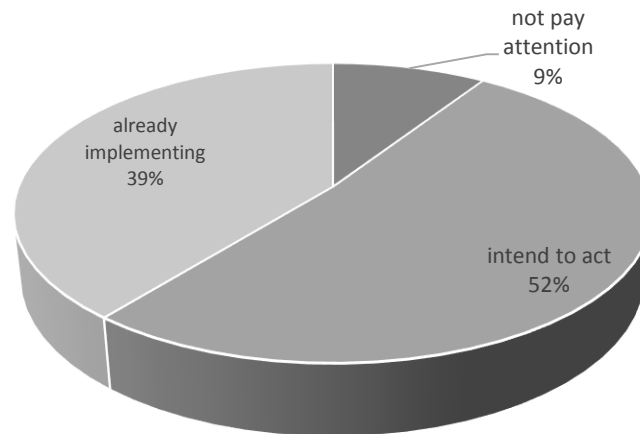
**Figure 9.** Building a community around the brand (focus on pro-ecological behaviors).

*A modern brand is a creative difference that symbolizes a person's self-image and about the environment, allowing them to strengthen their aspirations and dreams, provoking them to think* (Rybak, 2017, p. 40). Thus, 78% of the surveyed companies admit that they are implementing or intend to implement in the near future activities in the field of building relationships with external stakeholders in order to build a community around a brand that is pro-environmentally. Only 13% said they would not implement the above-mentioned activities.



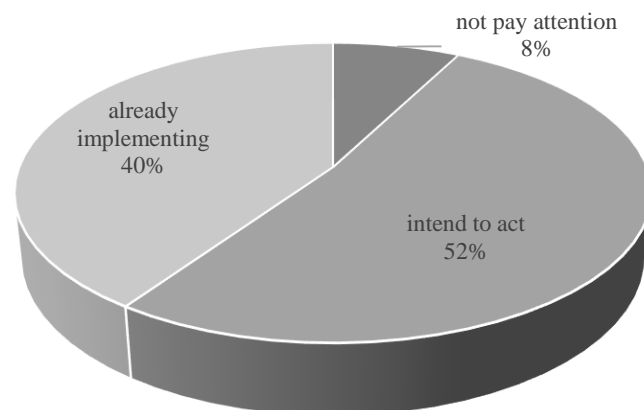
**Figure 10.** Packaging made of eco-friendly and biodegradable materials.

As mentioned earlier, customers are paying more and more attention to the pro-ecological behavior of producers, on the other hand, as Kaźmierczak M. points out *The concept of a green supply chain, which is actually difficult to achieve, is based on the assumption of "zero waste". To this end, the design of products assumes maximum use of materials and the possibility of their reuse by means of recycling, giving the products a "second life"* (Kazmierczak, 2022, p. 20). Therefore, the respondents were asked whether they use packaging made of ecological and biodegradable materials in their products. 89% of respondents already implement and will use such packaging, while 11% indicate no action in this area.



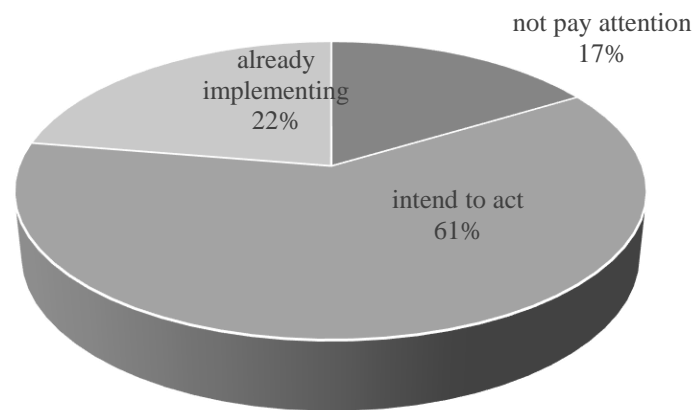
**Figure 11.** Reduction of paper documentation.

Taking into account the fact that *e-logistics in the company makes the flow of information between manufacturers, suppliers and customers better and faster. It contributes to shortening the supply chain, and thus accelerating the achievement of the intended plans and profits* (Tokarski, Grodek, 2023, p. 13) respondents were asked about reducing paper documentation and switching to electronic documentation, which is associated with low emissions. 91% of respondents declare that they will be implementing activities in this area in the near future or are already implementing them. Only a small percentage of 9% of respondents report a lack of action in this regard (Figure 11). This lack of action may be due to the policy of the top management, the lack of knowledge about these activities of the respondent or small savings in relation to the total costs of running the business.



**Figure 12.** Using environmentally friendly materials.

The European Commission points out that the inclusion and use of environmentally friendly materials in production should take place in all phases of the product life cycle. In other words, companies should act in an environmentally friendly way in each of the phases in which they can. Thus, the respondents were asked whether their companies use environmentally friendly materials (Figure 12) and the respondents indicated in 8% that they would not take action in this area.



**Figure 13.** Informing customers about changes in CO<sub>2</sub> emissions implemented in the company.

It is good practice for companies in the context of climate change to inform their customers about their activities that contribute to the reduction of greenhouse gas emissions. Undoubtedly, this translates real pro-environmental changes into image-building activities. Therefore, the respondents were asked whether they inform customers about changes in CO<sub>2</sub> emissions in the company.

83% of respondents inform or intend to inform customers about activities related to the change in CO<sub>2</sub> emissions, while 17% do not anticipate such activities (Figure 13).

#### 4. Summary of the research results

This article describes part of a larger research project focusing on the development of low-emission logistics in supply chains may constitute the basis for enterprises to compare their activities with those performed by the enterprises participating in the research. In Poland, there has been no extensive research on the development of low-emission logistics in supply chains so far, which was an interesting research gap from a scientific point of view. A total of 250 companies were surveyed.

Companies' efforts towards low-carbon logistics in supply chains undoubtedly depend on many factors, e.g. legal regulations, the requirements of suppliers in the supply chain, high and volatile energy prices, as well as high initial costs. Of course, it should be remembered that, as with other processes taking place in a company, in this case the Pareto principle should be applied, according to which only 20% of satisfied customers generate 80% of the profits. They are the source of profits for the company and have a real impact on the changes taking place in it.

On the basis of the conducted research, the respondents declare to the greatest extent the achievement of the goal of caring for the image of a company operating in accordance with the principles of sustainable development. However, these must be real actions so that the declarants are not accused of the so-called green washing (Gatti, 2019; Nyilasy, Gangadharbatla, Paladino, 2014; Aji, Sutikno, 2015), i.e. by using, for example, eco signs not necessarily implemented in the company. The good news for customers is the fact that the European Commission has announced a draft Green Claims directive in which companies will bear the consequences for green washing, i.e. fines, confiscation of sales revenues as well as temporary exclusion from participation in tenders. Moreover, regardless of whether it is a stakeholder of the supply chain or an end customer, companies take their opinions into account because the cooperators can use pressure to implement technology that reduces CO<sub>2</sub> emissions and inform customers about their activities that contribute to the reduction of greenhouse gas emissions.

To sum up, it should be crucial for companies to act towards a low-carbon economy, prioritizing achieving ecological efficiency due to climate change, as well as following the change of customers and their attitude towards environmental protection. On the one hand, this is due to the fact that we adapt to changing legal regulations, and on the other hand, because of the expectations of customers. As can be seen in this research, environment pollution affected behavioral patterns and therefore companies need to keep pace with the changes that have occurred. Companies can also implement these exceed the growing demands of customers to gain a competitive advantage.

Research should be expanded. The research did not take into account a wider context related to Corporate Sustainability Reporting Directive and ESG reporting activities, it will be discussed in the next article.

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