



Publisher

<http://jssidoi.org/esc/home>

ECO-MARKETING AND THE COMPETITIVE STRATEGY OF ENTERPRISES – REVIEW OF THE RESEARCH RESULTS OF ENERGY COMPANIES

Malgorzata Łęgowik-Malolepsza ¹, Jaroslav Kollmann ^{2,3}, Daniel Chamrada ^{2,3}

¹ Czestochowa University of Technology, Faculty of Management, Department of Management and Entrepreneurship, Generala Jana Henryka Dąbrowskiego 69, 42-201 Częstochowa, Poland

² Institute of Technology and Business in České Budějovice, Faculty of Corporate Strategy, Department of Management, Okružní 517/10, 370 01 České Budějovice, Czech Republic

³ University of Žilina, The Faculty of Operation and Economics of Transport and Communications, Department of Economics, Univerzitná 8215, 010 26 Žilina, Slovakia

E-mails:¹ m.legowik-malolepsza@pcz.pl; ² kollmann@vste.cz (corresponding author); ³ chamrada@vste.cz

Received 12 January 2024; accepted 18 April, 2024; published 30 June 2024

Abstract. This study examines the significant impact of eco-marketing in the energy sector when environmental sustainability is paramount. By implementing a diagnostic survey approach, we examined the feedback provided by 1025 firms pertaining to eight crucial energy sectors. The results of our research show that incorporating eco-marketing into competitive tactics is acknowledged and has a considerable and varied effect on pricing, sales, and operational expenses. These observations emphasise the dual function of eco-marketing in enhancing industrial competitiveness and promoting sustainability objectives. It provides a strategic framework for energy companies as they shift towards environmentally friendly practices.

Keywords: eco-marketing; competitive strategies; energy companies; company's costs

Reference to this paper should be made as follows: Łęgowik-Malolepsza, M., Kollmann, J., Chamrada, D. 2024. Eco-marketing and the competitive strategy of enterprises – review of the research results of energy companies. *Entrepreneurship and Sustainability Issues*, 11(4), 135-153. [http://doi.org/10.9770/jesi.2024.11.4\(9\)](http://doi.org/10.9770/jesi.2024.11.4(9))

JEL Classifications: M31, Q56, Z33,

1. Introduction

The term eco-marketing is a concept introduced previously in the literature. However, due to the permanent nature of pro-environmental activities, it is still vital and up-to-date. This study draws attention to the fact that the company's management staff still needs to recognise eco-marketing. This results from the research in which 1025 companies were analysed, and it was noted that, in advertisements and social media, energy companies are eager to emphasise their eco-marketing approach, which is based on increasing performance without harming the environment (Ziyadin et al., 2019). However, the research indicates that these companies' management staff need to gain knowledge of the impact of eco-marketing on the development of competitive strategies (Tauron, 2023). Based on the above, the study raised the research question: How does eco-marketing shape the competitive strategy of energy companies? The hypothesis (H1) was formulated to answer the research question that introducing eco-marketing in enterprise management and offering products allows for building a competitive advantage strategy in energy enterprises. This study sets itself apart from current literature by comprehensively examining eco-marketing within energy businesses, specifically from a managerial standpoint. This perspective needs to be thoroughly addressed in previous research. Our research focuses on the

strategic implications of eco-marketing at the organisational level rather than consumer behaviour or macro-environmental impacts. By doing so, we aim to expand existing knowledge and provide new theoretical and practical insights. Our research aims to enhance the theoretical framework of eco-marketing by clarifying its strategic dimensions and ramifications, specifically in the energy industry. This study aims to go beyond conventional perspectives on eco-marketing, which consider it a tactical means for meeting environmental regulations or standing out in the market. Instead, it emphasises eco-marketing as a crucial component in the strategic framework for gaining a competitive edge for energy companies. To accomplish our goals, we utilised a diagnostic survey approach, supplemented by a thorough examination of relevant literature and a rigorous analysis of survey data. This extensive methodology guarantees a meticulous topic examination, establishing a solid basis for our discoveries and conclusions.

Theoretical context of eco-marketing in enterprises

Economic trends indicating the direction of management in modern enterprises consider the level of environmental awareness represented by customers (Croitoru et al., 2021; Simionescu et al., 2022; Ruschak et al., 2023; Ogutu et al., 2023). According to Dong (2023), enterprises focusing on eco-innovation play an essential role in development and operation. According to Civelek et al. (2021), marketing communication positively affects the innovativeness of activities within an organisation. With the rapid growth of the economy, there is a need for continuous development of the environmental direction and transformation from a resource-based economy to a green economy (Zhang, Gao & Liu, 2022) and a focus on the most environmentally friendly return of raw materials back to the economy and secondary use of raw materials in the production process (Šimková et al., 2023; Jakubelskas & Skvarciany, 2023; López-Serrano et al., 2023). This means that customers evaluate companies and their products through a pro-environmental orientation. This is because customers are increasingly interested not only in the quality, price, and time of fulfilling their needs but also in the conditions (Pilarczyk & Nestorowicz, 2010; Androniceanu & Sabie, 2022; Jagoda et al., 2023) in which the products satisfying their needs were manufactured, although it should be noted that there are still companies that do not act fully ethically towards the environment (Podda & Harold, 2019).

In the literature on the subject, eco-marketing is understood as offering and selling ecological or environmentally friendly products addressed to customers with a higher level of environmental awareness (Kronenberg, 2007), and the production and sale of products and services are less harmful to the environment (Maksudunov & Avci, 2020). According to Li and Evans (2019), environmental performance is a valuable concept that combines business activities with sustainable development and achieving long-term profits. Thus, eco-marketing is an element of the business management process. It aims to recognise and forecast customer needs for green products and satisfy them by creating a supply of environmentally friendly products (Zaremba, 2009). According to Ali (2021), customers from less developed countries have less knowledge than customers from developed countries, so choosing the right environmental strategy is necessary. Eco-marketing reflects the company's activities focused on identifying customer needs to obtain their satisfaction, which contributes to sustainable development due to consumers' growing interest in sustainability (Correia et al., 2023; Skare et al. 2023a,b). In this approach, eco-marketing becomes the pursuit of reducing the negative impact of the enterprise on the natural environment, which means that eco-marketing involves the promotion of products and technologies that are consistent with the concept of sustainable development (Klikovac-Katanić & Kosanović, 2012), which forces enterprises to deal with this problem (Shi et al., 2022; Chen, Wu & Jiang, 2022). In this context, eco-marketing becomes an instrument of the policy of sustainable development and corporate social responsibility (Biernacki, 2017; Chowdhury, 2021; Skare et al. 2024a).

Pro-environmental activities undertaken by enterprises, on the one hand, help build relationships with customers and, on the other hand, improve the company's image (Kot, Ul & Kozlovski, 2019) through green marketing tactics to enhance the purchasing intentions of their customers (Jabeen et al., 2023). Moreover, eco-marketing makes it possible to reorient the traditional approach to enterprise management to an approach directed at the launch of green product solutions. Therefore, environmentally responsible companies concentrate their activities on satisfying the environmental needs of customers, which is why they are perceived as ethical, yet the principles of sustainable development are still implemented only in a small proportion of enterprises (Skare et al. 2024bc; Karaeva et al., 2023). Therefore, pro-environmental activities become a factor in the market's

competitive advantage (Wojnarowska, 2011; Małys, 2023), and thus environmental and social wealth (Maassen et al., 2023). Customers are increasingly choosing products from companies promoting environmental values, which is why they are willing to accept a higher price for the products of companies that disseminate their orientation using eco-marketing tools due to environmental protection (Reddy et al., 2023; Skare et al. 2024b). Additionally, eco-marketing focuses on information activities addressed to customers and business partners (Rosca, Tanase & Morar, 2012) regarding strategic, tactical, and operational activities (Vilkaite-Vaitone & Skackauskiene, 2019). Therefore, the primary objective of eco-marketing, implemented through tools such as environmental campaigns, should be to improve the environmental awareness of society by comparing business processes, transforming markets, and thus balancing the social, environmental, and economic dimensions, which is intended to educate global society towards responsible and conscious actions for the already degraded environment (Czerwińska & Jaśkiewicz, 2009; Solaiman et al., 2015).

To summarise the review of the literature on the subject in terms of defining eco-marketing, it should be emphasised that it is a marketing concept directed to the use of interest in environmental protection needs when selling the offered goods and services (Kokoszka, 2008) and promoting a more responsible approach that builds a sustainable society (Sheth & Parvatiyar, 2021). The eco-marketing issue is becoming increasingly important since it responds to customer needs resulting from concern for the environment, especially since it becomes an instrument for creating needs, the satisfaction of which brings results for both customers and enterprises. However, all parties involved must cooperate (Hodson, 2019). Explaining how eco-marketing shapes the competitive strategy of enterprises is essential not only for building the theory (Skowron-Grabowska, 2023) but also for the practice of management of modern enterprises since the development of eco-marketing is the basis for activities of the environmental protection movement, which becomes a factor in the competitiveness of enterprises, mainly due to the intensifying social and environmental crises (Akbulut, 2020; Ahmad et al. 2022).

Competitive strategy of enterprises in the context of eco-marketing

The functioning of enterprises in the competitive market requires entrepreneurs to apply operation principles and concepts to implement competitive strategies, which are critical factors related to the performance of the organisation (Gonzalez-Benito, Suarez-Gonzalez & Gonzalez-Sanchez, 2022), primarily through marketing operations that develop competitive business strategies (Hosseinzadeh et al., 2021; Urban et al., 2023). In the literature on the subject, this operation concept is referred to as a competitive strategy (Cooke, 2008), which should be understood as a development model to create long-term advantages for all entities in the competitive environment (Faulkner & Campbell, 2006). According to Amer and Abdulwahhad (2020), a significant and positive correlation exists between competitive advantage strategies and customer satisfaction and value. The forerunner of the competitive strategy theory was Porter, who significantly contributed to the development of knowledge in the field of strategic management, assuming that "competitive strategy assumes the search for a privileged competitive position in the industry, which is the most important area from the point of view of competition (Talír & Straková, 2023). According to Wanyonya et al. (2020), the key to increasing competitiveness is applying the competitive strategy Porter described. This strategy includes a differentiation, focus, and low-cost strategy (Islami, Mustafa & Topuzovska Latkovikj, 2020). The competitive strategy is to enable the development of a solid and favourable position in relation to those forces that determine the nature of competition in the industry" (Porter, 2006), which involves creating a sustainable competitive strategy (Hayati et al., 2021). In the literature on the subject, competitive strategy is understood as the objectives and actions undertaken by the company that are aimed at achieving a sustainable competitive advantage (Madsen & Walker, 2015; Wang et al., 2021). Moreover, the competition strategy includes striving to meet best customer needs and activities aimed at weakening or eliminating a specific competitor from the market (Spulber, 2007; Ardley & Naikar, 2021).

The most famous division of competitive strategies was developed by Porter, who distinguished three basic competitive strategies: cost leadership, differentiation, and focus (Porter, 1998). According to Suleman, Rashidirad & Suleman (2019), it is essential to remember that although the cost leadership strategy may lead to increased performance, it may be more beneficial and sustainable for online-only companies to pursue the differentiation strategy than the cost leadership strategy. The competitive strategy regarding cost leadership is distinguished by the fact that the company using this strategy strives to achieve the lowest level of costs in the

industry in relation to competitors (Gomes, Okano & Otola, 2020). However, it should be noted that most companies currently use this competitive strategy, competing with other entities in terms of cost optimisation (Alkhanak, Lee, Rezaei & Parizi, 2016). In this context, organisations need to use cost management systems with a strategic orientation; only then can a competitive advantage be achieved (Adigbole et al., 2023). When considering the competitive strategy in terms of cost leadership in the context of eco-marketing, it should be admitted that implementing eco-marketing projects is usually associated with higher costs (Hennart, 2005). An example is green marketing leader Starbucks, which invests heavily in environmental and social initiatives (Fernando, 2023). However, the eco-marketing preferences of customers can be satisfied by searching for optimal solutions for production in pro-environmental conditions and maintaining the required cost regime, which later pays off in the form of income and sales. (Ullah et al., 2022).

In the case of differentiation, the competitive strategy involves offering customers a wide range of manufactured products or services and, above all, standing out from competitors in the market (Lauga, Ofek & Katona, 2022). This range of offers allows for meeting the diverse needs of different customer groups, which is reflected in the level of sales. On the other hand, not every company can provide and maintain a broad and balanced product offer. However, the differentiation strategy allows the company to fill market gaps, thereby preventing competitors from entering the market in various ways, which include, e.g., the low-cost strategy (Mongkol, 2021). In relation to eco-marketing, the differentiation strategy may be distinguished by the fact that entrepreneurs can expand their commercial offers with items created in a sustainable, environmental, and economical manner (Ahmed, Streimikiene & Zheng, 2021).

The concentration strategy involves focusing on a narrow market offer dedicated to a specific customer and supplier (Ahsan et al., 2023), which may increase the innovativeness of suppliers (Lin, Xue & Wang, 2021). Unlike the differentiation strategy, the concentration strategy is directed at opposite actions, which may cause these concepts to be mutually exclusive (Ali & Anwar, 2021) and contradictory (Xu et al., 2023). When analysing the competition strategy regarding concentration in the context of eco-marketing, it should be stated that this is a widespread activity in enterprises and involves them changing their production processes to manufacture products compliant with the principles of respect for natural resources and environmental protection (Wang & Wang, 2019). This competitive strategy, which focuses on eco-marketing, is addressed to recipients with high requirements who need to purchase products and services manufactured in a way that does not have a negative impact on the natural environment because harmony between man and nature has become a common choice of all countries in the world (Yuan, Wang & Yin, 2021).

To sum up, common competitive strategies regarding cost leadership, differentiation, and focus take on a new dimension when considering eco-marketing (Crespo, Simões & Fontes, 2020). Looking at the company's competitive strategies through the prism of eco-marketing increases the company's attractiveness in the eyes of potential customers and helps expand into new markets (Rajput et al., 2022).

2. Methodology

The diagnostic survey method was used in the research (Apanowicz, 2002). The research tools used include literature studies, the survey questionnaire (Vogel, Koutsombogera & Costello, 2020) and its verification, descriptive analysis, and statistical analysis. The work was divided into two main parts: the theoretical part and the empirical part. In the theoretical part, a review of the literature on eco-marketing and competitive strategies of enterprises was conducted. On the other hand, in the empirical part, there were characterised energy companies constituting the research sample, verified later in the study with questions from the survey questionnaire. The survey was conducted on a sample of 1025 enterprises, 8 of which were energy enterprises, and the survey was conducted from January to March 2022. The selection of the research sample was purposeful since it was noticed that energy companies are eager to emphasise their eco-marketing approach in advertisements and social media.

In contrast, the research indicates that the management staff of these companies do not know the impact of eco-marketing on the development of competitive strategies of enterprises. The study was carried out using the computer-assisted telephone interview (CATI) technique (Hair et al., 2014), which is widely used despite the

lack of conclusive evidence of representativeness (Hemsworth et al., 2021). The advantages of using the CATI method to achieve the objective of the study include a short period for conducting many tests, high-quality results, systematicity of stages occurring during the study, integrated data collection (Oláh et al., 2019), and low cost (Maffioli, 2020). The questions used a five-point rating scale. The respondents were asked to answer the question that best characterises the degree to which they agree or disagree with each statement by selecting one of five values on a Likert scale from 1 to 5. Answer 1 meant “I completely disagree”, 2 “I disagree”, 3 “I don't know”, 4 “I agree”, 5 “I completely agree”.

The following hypothesis was put forward in this study: *There is a relationship between the implementation of eco-marketing and the company's competitive strategy*; 4 questions from the survey questionnaire were used to verify the hypothesis.

The results were subjected to a descriptive analysis (Kemp, Ng, Hollowood & Hort, 2018), comparing the results obtained in energy enterprises with those of the other surveyed enterprises. It should be noted that the descriptive method characterizes cognitive activities and their products (Popper, 2005), which do not lead to any conclusions and are based only on probability theory (Kaliyadan & Kulkarni, 2019). The descriptive method serves an idiographic function in empirical cognition by describing a single organisation or structure (Popper & Hansen, 2014) and improving business performance (Farrokhizadeh & Oztasyi, 2022). Therefore, the descriptive method can characterise an event, phenomenon, process, or precisely defined research problem. The discussed methodological approach enables the formulation of research questions and their verification in a further procedure (Schjoedt, Bird, 2014), and according to Subanja et al. (2021), three levels of descriptive methods, namely construction, imitation, and modification, are distinguished. Subsequently, the results were subjected to statistical analysis (Hedges & Olkin, 2014), where the non-parametric Mann-Whitney U test was used (Stanisz, 2006). However, it is a popular procedure (Fong & Huang, 2019), which does not require homogeneity of variances or normal distribution, which is its advantage, as well as the Wilcoxon W test (Dobosz, 2004) and asymptotic (two-sided) significance was determined. In all calculations, the level of significance of $p < 0.05$ was assumed (Pułaska-Turyna, 2005).

3. Results

Characteristics of the energy companies constituting the research sample

Enterprises participating in the electricity market can be divided into the following four groups:

1. Electricity manufacturers.
2. Energy trading companies - i.e., intermediaries that buy energy for further resale.
3. Companies dealing with energy transport - i.e., companies dealing with the distribution of energy to the final customer.
4. Customers are divided into two main groups: households and institutional customers.

The energy companies constituting the research sample were selected from 1025 enterprises, most of which are companies from the following sectors: Construction, Energy, Gastronomy, Trade, IT, Marketing, Media, Medical, Transport and Insurance.

The population of the surveyed energy enterprises was diverse, with a slight dominance (37.5%) of small enterprises hiring from 10 to 49 employees annually. The respondents held mainly top management positions (37.5%) and middle management positions (37.5%). It is worth noting that 50.0% of the respondents believe that the position of their company on the market is favourable, 37.5% of the respondents assess the company's position as dominant. In comparison, 12.5% of the respondents describe the company's position on the market as average. The surveyed companies have been operating on the market for 6 to 20 years (37.5%) and over 20 years (37.5%). The dominant activity profile of the surveyed enterprises is service companies (62.5%). The dominant age range of the respondents is 36-50 years (87.5%). The respondents' work experience in each company ranges from 6 to 20 years (37.5%) and over 20 years (37.5%). The main products of the surveyed companies are energy services (62.5%). The structure of the research sample is presented in Table 1.

Table 1. Structure of the research sample

<i>Characteristics of enterprises</i>	<i>Category description</i>	<i>% of respondents</i>
Company's size	<i>Micro-enterprise (hiring 1 to 9 employees on an annual average)</i>	25.0%
	<i>Small enterprise (hiring 10 to 49 employees on an annual average)</i>	37.5%
	<i>Medium-sized enterprise (hiring 50 to 250 employees on an annual average)</i>	25.0%
	<i>Large enterprise (hiring more than 250 employees on an annual average)</i>	12.5%
Position held in the company by the respondent	<i>Top management position (strategic level)</i>	37.5%
	<i>Middle management position</i>	37.5%
	<i>Management position at operational level</i>	12.5%
	<i>Employee</i>	12.5%
Territorial scope of the business	<i>A global enterprise</i>	25.0%
	<i>A European-scale company</i>	25.0%
	<i>A national company</i>	25.0%
	<i>A local company</i>	25.0%
Company's position in the market	<i>Dominant</i>	37.5%
	<i>Favourable</i>	50.0%
	<i>Average</i>	12.5%
Company's operating time on the market	<i>up to 5 years</i>	25.0%
	<i>6-20 years</i>	37.5%
	<i>more than 20 years</i>	37.5%
Dominant business profile of the company	<i>Production company</i>	25.0%
	<i>Service company</i>	62.5%
	<i>Trade company</i>	12.5%
Respondent age range	<i>up to 35 years</i>	12.5%
	<i>36-50 years</i>	87.5%
Respondent's work experience in the company	<i>up to 5 years</i>	25.0%
	<i>6-20 years</i>	37.5%
	<i>more than 20 years</i>	37.5%
Company main products	<i>cables, lighting, automation</i>	12.5%
	<i>heat pumps</i>	125%
	<i>Construction projects and supervision</i>	12.5%
	<i>Energy services</i>	62.5%

Source: Own study based on the conducted research

Comparative analysis of energy companies against other enterprises in the context of building a competitive advantage strategy, considering eco-marketing activities

The research objective was to examine and assess eco-marketing as a factor in building the competitive strategy of energy companies. The survey research results on eco-marketing issues in the context of the competitive strategy obtained from 1025 enterprises were subjected to a descriptive analysis, comparing the results obtained from energy companies with those for the other surveyed enterprises. The first statement analysed was: *Eco-marketing is included in the company's competitive strategy*, and Figure 1 presents the detailed results from the surveyed companies.



Figure 1. Verification of the statement: Eco-marketing is included in the company's competitive strategy
Source: Own study

The analysis of the information obtained based on the first survey statement allows for the conclusion that 50% of the respondents from energy companies believe that eco-marketing is included in their competitive strategy. When comparing the results obtained with those for the other surveyed enterprises, it is noted that 56% of enterprises believe that eco-marketing is included in their competitive strategy, i.e., it can be concluded that energy industry enterprises have a similar position on this issue as the other surveyed enterprises. According to 37.5% of the respondents from energy companies, they cannot take a position on whether eco-marketing is included in their competitive strategy. When comparing the obtained results with those obtained from the other surveyed enterprises, it is noted that 24% of the respondents cannot clearly answer whether eco-marketing is included in the strategy of their competitors or not. It is worth noting that only 12.5% of the respondents from energy companies indicate that eco-marketing is not included in their competitive strategy. In contrast, in the case of the other surveyed companies, this answer was chosen by 20%. Based on the research findings, eco-marketing has a role in shaping the competitive strategy of businesses, especially energy corporations. The second analysed statement was: *The use of eco-marketing increases the price of the product*, and Figure 2 presents the detailed results from the surveyed companies.

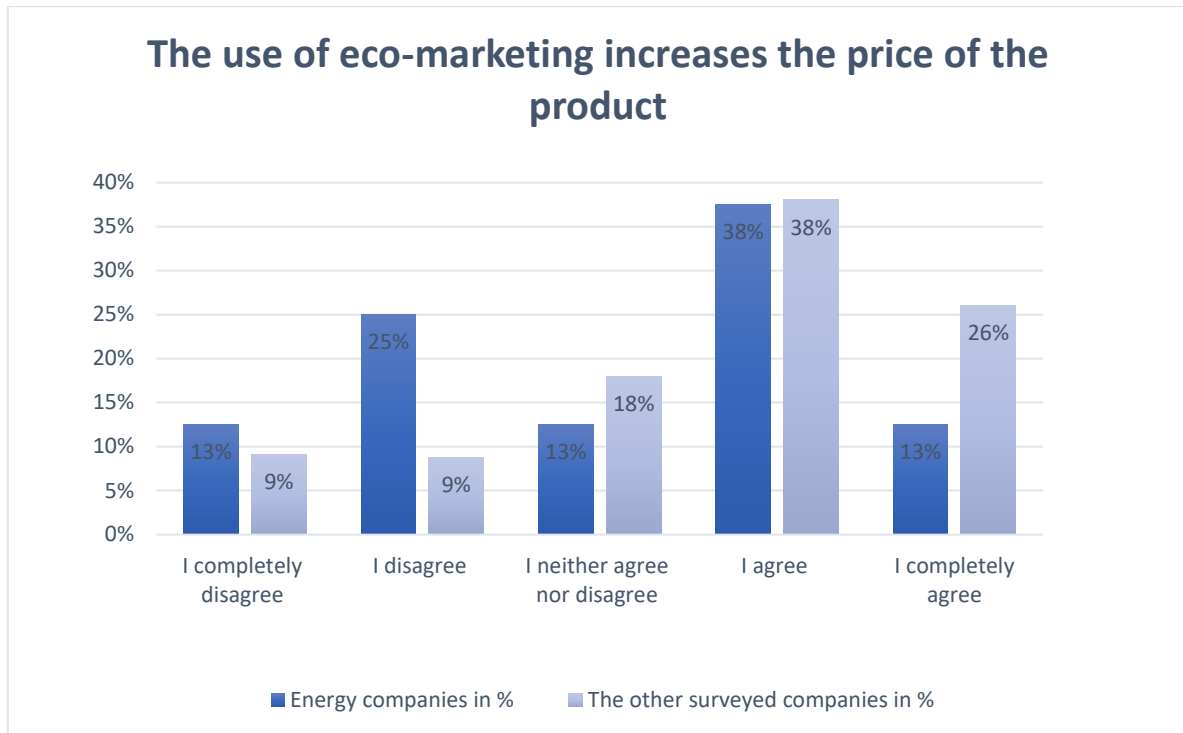


Figure 2. Verification of the statement: The use of eco-marketing increases the price of the product

Source: Own study

When analysing the responses regarding the impact of eco-marketing on the increase in product prices, it can be noticed that 50% of the respondents from energy companies confirm that the use of eco-marketing is a factor causing an increase in the price of the product. Regarding the responses obtained from the other surveyed enterprises, such an answer was declared by 64% of the respondents, i.e., in this respect, the responses of energy industry enterprises differed partially from the answers of the other respondents. This may be because undertaking eco-marketing activities generates additional costs. Notably, 37.5% of the respondents are from energy companies, and 18% are from other companies, and they do not notice any impact on the increase in product prices. This may suggest that eco-marketing activities do not generate additional costs that increase the price of the product or that these costs are so low that they do not significantly impact the product's unit price. As in the case of the previous statement, 12% of the respondents from energy enterprises and 18% from other companies cannot assess whether eco-marketing influences the increase in product prices. This may mean that these entities do not undertake eco-marketing activities. When summing up the research results referring to the second statement, it can be assumed that eco-marketing is a factor affecting the increase in product prices. On the one hand, this may result from the fact that eco-marketing generates operating costs for enterprises and, on the other hand, from the fact that customers are willing to pay a higher price for products that meet pro-environmental requirements.

Another analysed statement was: *The implementation of eco-marketing in the competitive strategy translates into an increase in sales*, and Figure 3 presents the detailed results from the surveyed companies.

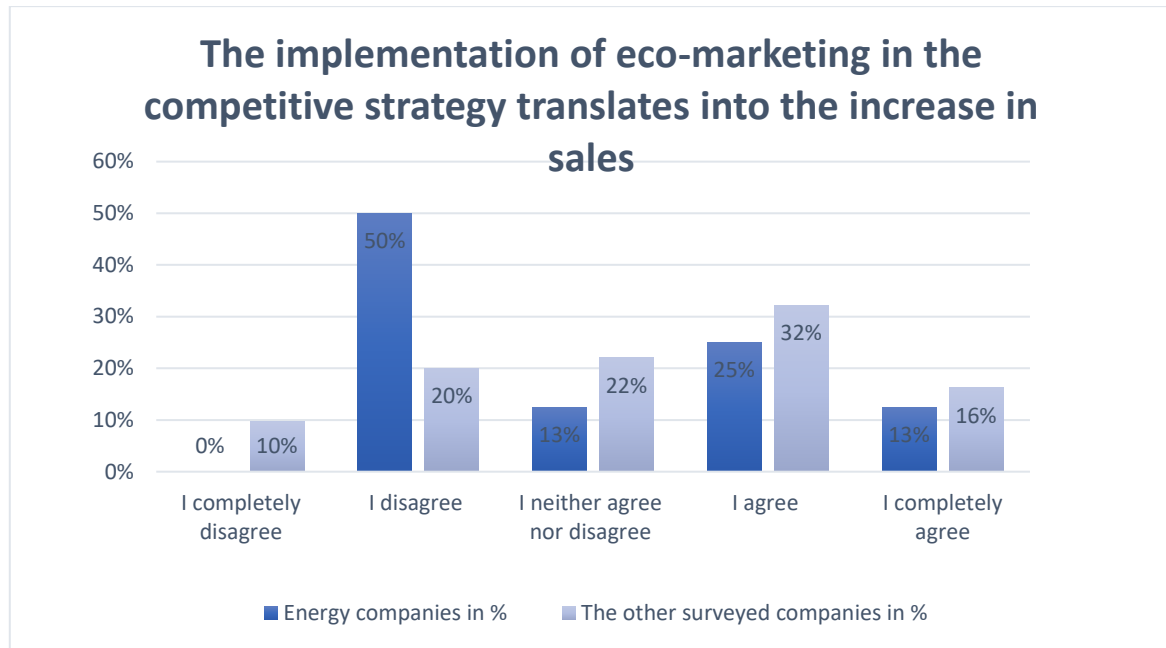


Figure 3. Verification of the statement: The implementation of eco-marketing in competitive strategy translates into an increase in sales

Source: Own study

When considering the answers provided by the respondents from energy companies, it is noted that, according to 50% of the respondents, implementing eco-marketing in the competitive strategy does not translate into an increase in sales. 29.6% of the respondents from the other surveyed entities have the same opinion. A difference of 20 percentage points is the largest discrepancy in the responses obtained in the survey of energy companies against the other surveyed enterprises.

Implementing eco-marketing in the competitive strategy translates into an increase in sales, according to 37.5% of energy companies and only 48.4% of the other respondents. The analysis of the responses of 12.5% of the respondents from energy companies to the above statement indicates that they cannot take a position on the issue of whether implementing eco-marketing in the competitive strategy translates into an increase in sales. While taken as a whole, this answer was chosen by 22% of the respondents.

In conclusion, the results suggest that implementing eco-marketing in the competitive strategy does not translate into an increase in sales, according to half of the surveyed energy companies. However, in the case of the respondents from the other surveyed enterprises, this impact is noticeable by half of the respondents. This may mean that the management of energy companies does not analyse eco-marketing as a factor causing the increase in product sales, unlike the other surveyed entities. When comparing the responses to the question about sales with the responses to the question about price, it should be noted that assuming that sales are the product of price and quantity, the increase in price translates into an increase in sales unless there is a decrease in the quantity of the products sold.

Because there were doubts about eco-marketing's impact on shaping the competitive strategy of energy companies, the respondents were asked whether *The implementation of eco-marketing results in an increase in the company's costs*. Figure 4 presents the detailed results from the surveyed enterprises.

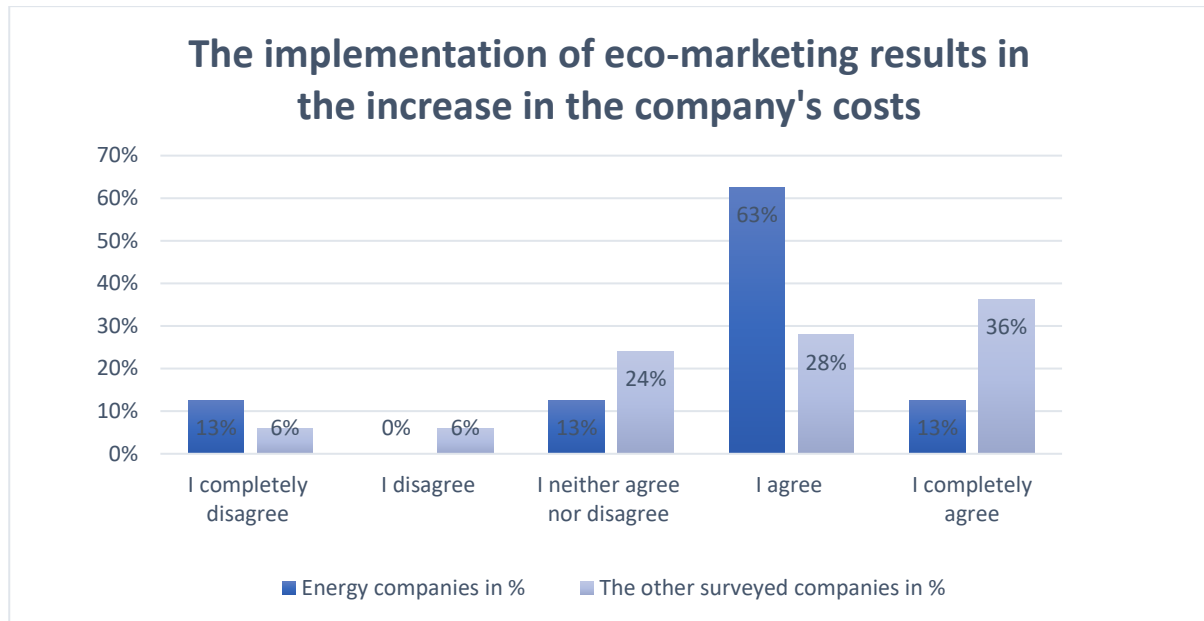


Figure 4. Verification of the statement: The implementation of eco-marketing results in an increase in the company's costs
Source: Own study

Based on the research results, 75% of the surveyed energy companies agreed that implementing eco-marketing increases costs. This was confirmed by 64.1% of the respondents from the other surveyed enterprises. In turn, 12.5% of the respondents from energy companies believe that implementing eco-marketing does not increase the company's costs. In comparison, this answer was given by 12% of the respondents from other enterprises. Moreover, 12.5% of the respondents from energy companies could not take a position on the verified statement. In comparison, as much as 24% of the other surveyed entities chose the response that *I neither agree nor disagree with*. To sum up, it can be concluded that many of the respondents from energy enterprises and the other surveyed enterprises believe that eco-marketing is a factor causing the increase in operating costs.

The results obtained from the last verified statement reveal discrepancies between the energy industry and the other surveyed enterprises. About 75% of the respondents from energy companies believe that implementing eco-marketing increases the company's costs, while 64% of the other companies confirm this. There are also discrepancies among entities that were unable to clearly state whether the implementation of eco-marketing results in an increase in the company's costs or not—taken as a whole, twice as many other entities could not take a position on this issue compared with entities from the energy industry, which proves that despite the increase in environmental knowledge in society, the knowledge of eco-marketing as a factor of competitive advantage is still underestimated in the company's strategic management.

Discussion

When considering the problem of whether the introduction of eco-marketing in enterprise management and offered products allows for building a competitive advantage strategy in energy enterprises based on the results of the conducted research, several observations come to mind. Analysing the responses obtained in relation to the first statement that *eco-marketing is included in the company's competitive strategy*, it should be emphasised that only 12% of the respondents from the energy industry and 20% from the other surveyed enterprises indicate that eco-marketing is not included in their competitive strategy. It can, therefore, be concluded that this is a desirable and acceptable state, which means that eco-marketing is a concept known and associated with enterprise strategies for most respondents, thus confirming the assumed hypothesis.

Concerning the second statement, it should be noted that approximately 64% of all the respondents believe that using eco-marketing increases the product price, which is an expected answer, as it is related to understanding eco-marketing activities as additional activities, i.e., generating additional operating costs.

The third statement showed significant differences between the energy industry and other enterprises in assessing whether *implementing eco-marketing in the competitive strategy translates into an increase in sales*. The results obtained from the other enterprises were more diverse (i.e., 30% - negative answers; 22% - no position; 48% - positive answers), which proves that the management staff of energy enterprises have no knowledge of the impact of eco-marketing on the development of competitive strategies of enterprises.

When referring to the last statement, i.e., whether *the implementation of eco-marketing increases the company's costs*, some differences were also found between the energy industry and the other surveyed enterprises. This was the only statement for which the respondents from the energy industry gave such clear answers, i.e., 75% of them agreed with the verified statement. In comparison, 64% of the other respondents provided the same information. Significant differences were also noted in the case of undecided entities. It should be noted that, as in the case of the third statement, the answers are consistent with the attitude towards eco-marketing as a cost-generating factor.

To sum up, implementing eco-marketing results in an increase in costs but does not affect the increase in sales, which suggests that eco-marketing costs are a limiting factor in building the competitive strategy of energy companies. At this point, the question arises of whether costs are a barrier to implementing eco-marketing or perhaps lack of knowledge because the answer to which *I neither agree nor disagree* occurs frequently.

To deepen the considerations so far, the analysis of the frequency of selected answers was also conducted in the study, which shows that the response *I agree with* was the most frequently selected by the respondents (energy companies - 34%; the other surveyed enterprises - 33%). However, the least frequently occurring response was that *I completely disagree* (energy companies - 9%; the other surveyed companies - 9%). The above is illustrated in Figure 5.

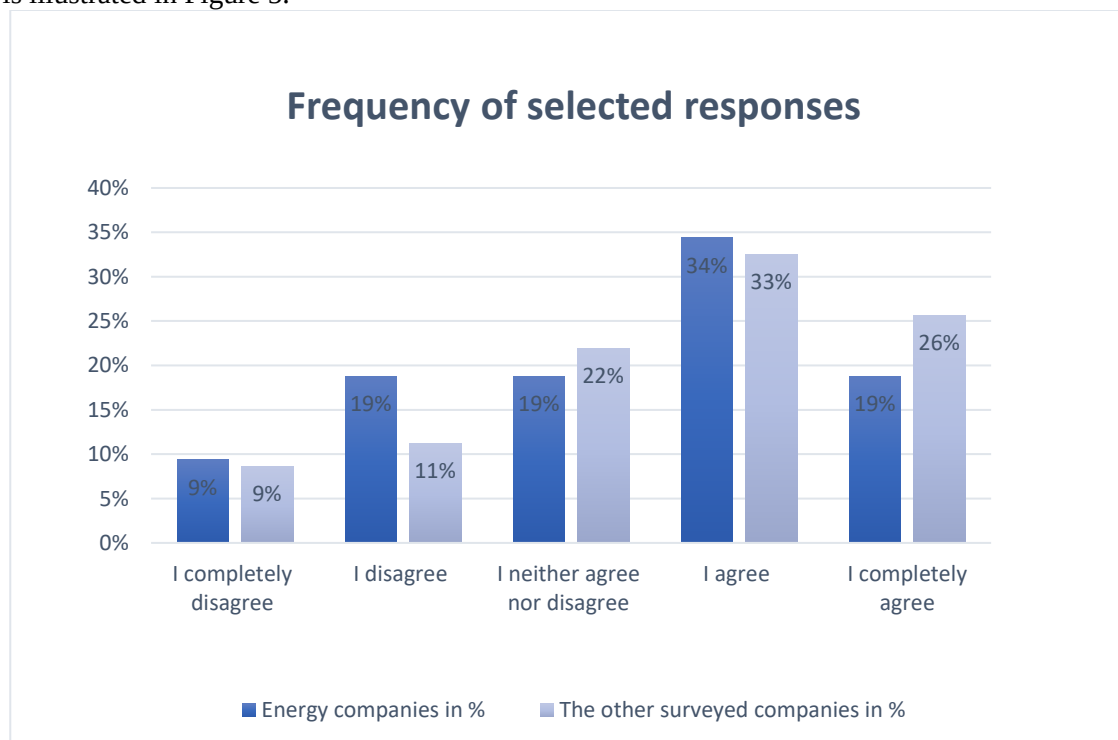


Figure 5. Verification of the frequency of selected responses
Source: Own study

Statistical validation of the energy industry against other companies in terms of eco-marketing issues

Considering the proven differences in the respondents' attitudes toward the energy industry in relation to those from other companies in terms of eco-marketing issues, which were demonstrated in the previous part of the work, it was decided to verify the accuracy of the analysed statements using statistical tools. The results of the statistical verification are presented in Table 2.

Table 2. Results of statistical verification

	Eco-marketing is included in the company's competitive strategy.	The use of eco-marketing increases the price of the product.	The implementation of eco-marketing in the competitive strategy translates into an increase in sales.	The implementation of eco-marketing results in an increase in the company's costs.
Mann-Whitney U	3818.500	3155.000	3522.500	3641.500
Wilcoxon W	521471.500	3191.000	3558.500	3677.500
Z	-0.309	-1.141	-0.674	-0.534
Asymptotic significance (two-sided)	0.757	0.254	501	0.593

Source: Own study

The results of the Mann-Whitney U test and the Wilcoxon W test, which assess the impact of eco-marketing on society, are presented in Table 2. The table provides information on four important dimensions related to the impact of eco-marketing. The two-sided asymptotic significance of all the analysed variables exceeds the usual significance threshold of <0.05 , indicating a lack of statistical significance. The Z-score values show a rather modest range, thus providing further evidence to support the lack of significance of the findings. The study results indicate no significant evidence supporting eco-marketing as an important part of the company's competitive strategy ($p=0.757$). Moreover, there is no significant correlation between eco-marketing and the increase in product prices ($p=0.254$), sales ($p=0.501$) or the company's costs ($p=0.593$). Based on the data presented, it can be concluded that the strategic impact of eco-marketing on the studied variables does not confirm clear statements.

In the face of the growing importance of eco-marketing as a mechanism for increasing competitiveness and promoting sustainable development, the statistics offered have extraordinary implications. The detected significance levels for all the analysed factors exceed the established threshold of $p < 0.05$. This suggests that, based on the sample data, there is insufficient statistical evidence to support the assumption that eco-marketing impacts the company's pricing strategy, sales performance, or the structure of costs. The above findings depart from previous research that showed favourable results from eco-marketing regarding market position and financial results (Wojnarowska, 2011). One likely explanation for this discrepancy can be attributed to the limited sample size or unique characteristics of the market or segment being studied. Further comprehensive quantitative and qualitative analysis should be performed before reporting the results, as it may reveal important moderating or mediating factors. This study, therefore, raises new questions about the complex impact of e-marketing on corporate strategy and highlights the need for further interdisciplinary research in this area.

Conclusions

This study has revealed a range of significant findings in our endeavour to assess the influence of eco-marketing on corporate management and product offerings. The replies obtained from participants within the energy business and several other sectors have been thoroughly analysed, providing valuable insights into the influence of eco-marketing on the development of competitive advantage strategies. Our study yields several significant observations.

Initially, it is encouraging to observe that a substantial majority of participants, specifically 88% within the energy business and 80% in other industries, acknowledge the involvement of eco-marketing in their

competitive strategies. This finding indicates that eco-marketing is widely acknowledged and used as a concept closely linked to corporate strategy, confirming our initial prediction.

Furthermore, an agreement arises regarding the projected effects of eco-marketing. Approximately 64% of the respondents expect eco-marketing initiatives to result in a rise in product prices. The correlation between eco-marketing and increased operating expenses emphasises the widespread perception regarding the inherent characteristics of such endeavours.

A notable contrast becomes apparent when we examine the influence of eco-marketing on sales. This analysis observes notable inequalities between the energy industry and other sectors. Opinions among respondents from various industries exhibit a range of perspectives, with 30% expressing negative views, 22% remaining undecided, and 48% affirming a beneficial influence. In contrast to the energy industry, management personnel in this sector exhibit a somewhat lower level of awareness regarding the impact of eco-marketing on competitive strategies.

The issue of whether eco-marketing leads to a rise in company expenses remains a subject of contention, particularly when comparing the energy industry with other sectors. Notably, a significant proportion of respondents from the energy sector, specifically 75%, agree with this statement. Similarly, 64% of respondents from other sectors share a comparable viewpoint. The correlation between replies and the concept of eco-marketing as a factor that incurs costs is apparent.

In summary, our research indicates that implementing eco-marketing strategies may increase energy firms' expenses. However, it does not guarantee a corresponding rise in sales. This highlights the importance of eco-marketing as a constraining element in determining the competitive strategies of energy companies. The prevalence of responses indicating neutrality raises the question of whether the costs are a barrier to the broader implementation of eco-marketing or if there is a knowledge gap.

Our statistical analysis, which used the Mann-Whitney U and Wilcoxon W tests, supports the findings in this study. Unfortunately, the findings suggest that there is a lack of statistical significance observed in all the variables evaluated, which encompass the influence of eco-marketing on competitive tactics, product price, sales performance, and cost structure, thus failing to confirm hypothesis H1. The lack of statistical significance presented in this study challenges the prevailing beliefs about the impact of eco-marketing.

These findings hold significant implications given the increasing importance of eco-marketing in promoting competitiveness and sustainable development. The authors emphasise the necessity of conducting more quantitative and qualitative studies to potentially discover previously unexamined moderating or mediating elements. Consequently, our research presents significant inquiries regarding the complex impact of eco-marketing on business strategy and underscores the necessity of interdisciplinary investigation in this field (Foster, Saputra & Grabowska, 2020).

The absence of statistical significance in our findings, especially for the expected effects, highlights the intricate nature of eco-marketing's strategic consequences and presents opportunities for further investigation. Potential research endeavours may delve into the mediating and moderating variables that impact the efficacy of eco-marketing, such as industry-specific dynamics, regulatory frameworks, and consumer tendencies. An essential discovery of this study is the widespread acknowledgement of the impact of eco-marketing on the development of competitive strategies, as a considerable majority of companies in various industries are actively incorporating it. The widespread acceptance of eco-marketing demonstrates how it aligns strategically with business aims, confirming our premise and enhancing the theoretical knowledge of eco-marketing's role in strategic management frameworks.

The expectation of higher product prices and operating expenses resulting from eco-marketing campaigns highlights a fundamental difficulty in their execution: balancing environmental obligations and financial factors. These findings add to the current discussion on the economic aspects of sustainable business practices, emphasising the importance of strategic initiatives that reduce costs while increasing environmental advantages.

References

- Adigbole, E. A., Segun, E., Adegbola, E., Oladipo, O. & Samuel, F. (2023). Strategic Cost Management and Competitive Advantage in Selected Nigerian Manufacturing Companies. *Nigerian Journal of Accounting and Finance*, 14(2), 139-165.
- Ahmed, R. R., Streimikiene, D. & Zheng, X. S. (2021). The Impact of Proactive Environmental Strategy on Competitive and Sustainable Development of Organizations. *Journal of Competitiveness*, 13(4), 5-24. ISSN 1804-171X. <https://doi.org/10.7441/joc.2021.04.01>
- Ahmad, M., Ahmed, Z., Gavurova, B., & Oláh, J. (2022). Financial risk, renewable energy technology budgets, and environmental sustainability: is going green possible? *Frontiers in Environmental Science*, 10. <https://doi.org/10.3389/fenvs.2022.909190>
- Ahsan, T., Mirza, S. S., Gull, A. A., & Majeed, M. A. (2023). How to deal with customer and supplier concentration to attain sustainable financial growth? The role of business strategy. *Business Strategy and the Environment*. ISSN 0964-4733. <https://doi.org/10.1002/bse.3383>
- Akbulut, B. (2020). The Ecological Economics of Economic Democracy. *Ecological Economics*, 176. ISSN 0921-8009. <https://doi.org/10.1016/j.ecolecon.2020.106750>
- Ali, B. J., & Anwar, G. (2021). Porter's Generic Competitive Strategies and its Influence on the Competitive Advantage. *International Journal of Advanced Engineering, Management and Science*, 7(6), 42-51. <https://doi.org/10.22161/ijaems.76.5>
- Ali, M. (2021). A social practice theory perspective on green marketing initiatives and green purchase behavior. *Cross Cultural & Strategic Management*, 28(4), 815-838. <https://doi.org/10.1108/CCSM-12-2020-0241>
- Alkhanak, E. N., Lee, S. P., Rezaei, R., & Parizi, R. M. (2016). Cost optimisation approaches for scientific workflow scheduling in cloud and grid computing: A review, classifications, and open issues. *Journal of Systems and Software*, 113, 1-26. <https://doi.org/10.1016/j.jss.2015.11.023>
- Amer, R. S. & Abdulwahhad, F. L. (2020). Achieving the Competitive Advantage by Using Customer Relationships Management (CRM). *Polish Journal of Management Studies*, 21(1). <https://doi.org/10.17512/pjms.2020.21.1.05>
- Androniceanu, A., & Sabie, O.M. (2022). Overview of green energy as a real strategic option for sustainable development. *Energies*, 15(22), 8573. <https://doi.org/10.3390/en15228573>
- Apanowicz, J. (2002). Diagnostic survey method. *General Methodology*, 70-72.
- Ardley, B. & Naikar, S. (2021). Competitive Strategy as Practice: Obtaining Differential Advantage in the SME. *Open Journal of Business and Management*, 9(1), 196-212. <https://doi.org/10.4236/ojbm.2021.91011>
- Biernacki, M. (2017). *ELCC cost accounting and ecomarketing in enterprise operations*, Research Papers Of Wrocław University Of Economics, No. 480, Cost accounting, Management accounting, Controlling, pp. 15-16.
- Chen, L. B., Wu, Q. & Jiang, L. (2022). Impact of Environmental Concern on Ecological Purchasing Behavior: The Moderating Effect of Prosociality. *Sustainability*, 14(5). <https://doi.org/10.3390/su14053004>
- Chowdhury, S. (2021). Green Marketing-A New Corporate Social Responsibility. *ASM's International E-Journal of Ongoing Research in Management and IT*, 1-8. ISSN 2320-0065.
- Civelek, M., Ključnikov, A., Kmeco, L. & Hamarneh, I. (2021). The Influences of the Usage of Marketing Communication Tools on Innovations of the Functional Areas of Businesses: Perspectives for the Mining Industry. *Acta Montanistica Slovaca*, 26(4) 685-697. <https://doi.org/10.46544/AMS.v26i4.08>
- Cooke, F. L. (2008). *Competition, strategy and management in China*. Palgrave-Macmillan.
- Correia, E., Sousa, S., Viseu, C., & Larguinho, M. (2023). Analysing the Influence of Green Marketing Communication in Consumers' Green Purchase Behaviour. *International Journal of Environmental Research and Public Health*. <https://doi.org/10.3390/ijerph20021356>
- Croitoru, G., Oprisan, O., Robescu, V.O., Dumitrache (Serbanescu), A.- M., Hubel (Anghel), S.-R., Paraschiv (Ganea), G.I., Tudoran (Niculita), V.-I. (2021). Streamlining the Risk Management Process in the Framework of Sustainable Development and Projects to Increase the Competitiveness of Agricultural Holdings at the Level of Private Organisations. *Transformations in Business & Economics*, Vol. 20, No 2A (53A), pp.673-683.

Crespo, N. F., Simões, V. C. & Fontes, M. (2020). Competitive strategies and international new ventures' performance: Exploring the moderating effects of internationalisation duration and preparation. *Sage Journals*, 23(2). <https://doi.org/10.1177/234094442091633>

Czerwińska, M. & Jaśkiewicz P. (2009). The role of ecomarketing activities in the activity and development of enterprises, in: Sustainable development - aspects of the development of local communities, Development Initiatives Forum Foundation, Białystok, p. 11.

Dobosz, M. (2004). Statistical analysis of research results, Akademicka Oficyna Wydawnicza EXIT, Warszawa.

Dong, Y. (2023). Philosophical Research on Enterprise Innovation Ecology Based on a Human-Computer Interaction Mental Model. *Sustainability*, 15(3). <https://doi.org/10.3390/su15032470>

Farrokhzadeh, E. & Oztaysi, B. (2022). Review of Descriptive Analytics Under Fuzziness. *Intelligent and Fuzzy Systems*, 505, 639-645. https://doi.org/10.1007/978-3-031-09176-6_71

Faulkner, D. O., & Campbell, A. (2006). *The Oxford handbook of strategy: a strategy overview and competitive strategy*. Oxford University Press.

Fernando, J. (2023). What Is Green Marketing? Definition, Example and How It Works. *Sustainable Investing*. Investopedia.

Fong, Y. Y. & Huang, Y. (2019). Modified Wilcoxon-Mann-Whitney Test and Power Against Strong Null. *American Statistician*, 73(1), 591-608. <https://doi.org/10.1080/00031305.2017.1328375>

Foster, B., Saputra, J. & Grabowska, M. (2020). Communication Strategy Planning in Influencing the Intention to Visit: an Implication to Marketing Management. *Polish Journal of Management Studies*, 22(1), 117-133. <https://doi.org/10.17512/pjms.2020.22.1.08>

Gomes, J., Okano, M., & Otolá, I. (2020). Creation of Indicators for Classification of Business Models and Business Strategies in Production Systems. *Polish Journal of Management Studies*, 22(2), 142-157. <https://doi.org/10.17512/pjms.2020.22.2.10>

Gonzalez-Benito, J., Suarez-Gonzalez, J. & Gonzalez-Sanchez, D. (2022). Human resources strategy as a catalyst for the success of the competitive strategy: an analysis based on alignment. *Personnel Review*, 51(4), 1336-1361. <https://doi.org/10.1108/PR-04-2020-0254>

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2014). *Multivariate Data Analysis*. 7th Edition, Pearson Education, Upper Saddle 525 River, 129, pp. 282-288.

Hayati, N., Jaelani, E., Sopian, D., & Dewi, I. P. (2021). Analysis of Competitive Strategy to Create Sustainable Competitive Advantages Seen from the Nine Factor Model and Bacos Treacy Model. *Journal of Physics: Conference Series*. 1764. <https://doi.org/10.1088/1742-6596/1764/1/012053>

Hedges, L. V., & Olkin, I. (2014). *Statistical methods for meta-analysis*. Academic press.

Hemsworth, L. M., Rice, M., Hemsworth, P. H., & Coleman, GJ (2021). Telephone Survey Versus Panel Survey Samples Assessing Knowledge, Attitudes and Behavior Regarding Animal Welfare in the Red Meat Industry in Australia. *Frontiers in Psychology*. 12, 727-735. ISSN 1664-1078. <https://doi.org/10.3389/fpsyg.2021.581928>

Hennart, J. F. (2005). Transaction costs theory and the multinational enterprise. *The nature of the transnational firm*, 79-126.

Hodson, J. (2019). An ecological model of climate marketing: A conceptual framework for understanding climate science related attitude and behavior change. *Cogent Social Sciences*, 5(1). <https://doi.org/10.1080/23311886.2019.1625101>

Hosseinzadeh, S, Rostamzadeh, R., Šaparauskas, J., & Kersuliene, V. (2021). The influence of innovation and marketing strategy on the market – oriented activities of the company: the decisive role of environmental dynamics. *Acta Montanistica Slovaca*, 26(4), 748-760. <https://doi.org/10.46544/AMS.v26i4.12>

Islami, X., Mustafa, N. & Topuzovska Latkovikj, M. (2020). Linking Porter's generic strategies to firm performance. *Future Business Journal*. 6(3). <https://doi.org/10.1186/s43093-020-0009-1>

Jabeen, R., Khan, K. U., Zain, F., & Atlas, F. (2023). Buy green only: Interplay between green marketing, corporate social responsibility and green purchase intention; the mediating role of green brand image. *Business Strategy and Development*. <https://doi.org/10.1002/bsd.258>

Jagoda, A., Kolakowski, T., Marcinkowski, J., Cheba, K., & Hajdas, M. (2023). E-customer preferences on sustainable last mile deliveries in the e-commerce market: A cross-generational perspective. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 18(3), 853-882. <https://doi.org/10.24136/eq.2023.027>

Jakubelskas, U., & Skvarciany, V. (2023). Circular economy practices as a tool for sustainable development in the context of renewable energy: What are the opportunities for the EU?. *Oeconomia Copernicana*, 14(3), 833-859. <https://doi.org/10.24136/oc.2023.025>

Kaliyadan, F. & Kulkarni, V. (2019). Types of Variables, Descriptive Statistics, and Sample Size. *Indian Dermatol Online J.*, 10(1), 82-86. https://doi.org/10.4103/idoj.IDOJ_468_18

Karaeva, A., Ionescu, G., Cioca, L. I., Tolkou, A., Katsoyiannis, I., & Kyzas, G. (2023). Environmental sustainability for traditional energy small and medium enterprises. *Environmental Science and Pollution Research*, 30(16), 47822-47831. <https://doi.org/10.1007/s11356-023-25718-x>

Kemp, S. E., Ng, M., Hollowood, T., & Hort, J. (2018). Introduction to descriptive analysis. *Descriptive analysis in sensory evaluation*, 1-39. <https://doi.org/10.1002/9781118991657.ch1>

Klikovac-Katanić V. & Kosanović N. (2012). Implementation of Eco-Marketing During the Export of Food Products from Vojvodina. *Agriculture & Forestry*, 58(2), 97-109, Podgorica, p. 97.

Kokoszka, K (2008). Ecological marketing in the enterprise. in: A. Graczyk (ed.), *Environmental management in the enterprise* (pp. 104–109). Wrocław: Wyd. Uniwersytetu Ekonomicznego.

Kot, S., Ul, H., A. & Kozlovski E. (2019). Mediating Effect of Strategic Supply Chain Management on Social and Environmental Sustainability: Evidence from SMEs of Canada, Iran, and Turkey. *International Journal of Supply Chain Management*, 8(6), 105-117.

Kronenberg J. (2007). *Ecomarketing and its instruments*, Acta Universitatis Lodzianis Folia Oeconomica 204, p. 93.

Lauga, D. O., Ofek, E. & Katona, Z. (2022). When and How Should Firms Differentiate? Quality and Advertising Decisions in a Duopoly. *Journal of Marketing Research*, 59(6), 1252-1265. <https://doi.org/10.1177/00222437221082076>

Li, Y., & Evans, S. (2019). Business Model Innovation for Eco-Efficiency: An Empirical Study. In: Ameri, F., Steckle, K., von Cieminski, G., Kiritsis, D. (eds) *Advances in Production Management Systems. Towards Smart Production Management Systems*. APMS 2019. IFIP Advances in Information and Communication Technology, vol 567. Springer, Cham. https://doi.org/10.1007/978-3-030-29996-5_17

Lin, Y., Xue, B. & Wang, C. X. (2021). Concentration and diversification: components suppliers' strategy in utilising external knowledge. *Innovation-Organization & Management*, 23(4), 489-506. <https://doi.org/10.1080/14479338.2020.1825088>

López-Serrano, M. J., Lakho, F. H., Van Hulle, S. W. H., & Batlles-de-laFuente, A. (2023). Life cycle cost assessment and economic analysis of a decentralised wastewater treatment to achieve water sustainability within the framework of circular economy. *Oeconomia Copernicana*, 14(1), 103-133. <https://doi.org/10.24136/oc.2023.003>

Maassen, C., Rovira, R. & Urbano, D. (2023). A Process Model for Sustainable Entrepreneurship: Evidence from a Highly Entrepreneurial European Region. *Journal of Social Entrepreneurship*. <https://doi.org/10.1080/19420676.2023.2221262>

Madsen, TL. & Walker, G. (2015). *Modern Competitive Strategy*. McGraw Hill.

Maffioli, E. M. (2020). Collecting Data During an Epidemic: A Novel Mobile Phone Research Method. *Journal of International Development*. 32(8), 1231-1255. ISSN 0954-1748. <https://doi.org/10.1002/jid.3515>

Maksudunov, A. & Avci, M. (2020). The Color of the Future in Marketing is Green. *Contemporary Issues in Strategic Marketing*. 15(3), 225-254. <https://doi.org/10.26650/B/SS05.2020.002.07>

Małys, Ł. (2023). The approach to supply chain cooperation in the implementation of sustainable development initiatives and company's economic performance. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 18(1), 255-286. <https://doi.org/10.24136/eq.2023.008>

Mongkol, K. (2021). A Comparative Study of a Single Competitive Strategy and a Combination Approach for Enterprise Performance. *Polish Journal of Management Studies*, 23(2), 321-334. <https://doi.org/10.17512/pjms.2021.23.2.19>

Ogut, H., El Archi, Y., & Dénes Dávid, L. (2023). Current trends in sustainable organisation management: A bibliometric analysis. *Oeconomia Copernicana*, 14(1), 11-45. <https://doi.org/10.24136/oc.2023.001>

Oláh, J., Kovács, S., Virglerova, Z., Lakner, Z., Kovacova, M., & Popp, J. (2019). Analysis and comparison of economic and financial risk sources in SMEs of the Visegrad group and Serbia. 515 *Sustainability*, 11.7. 1853. <https://doi.org/10.3390/su11071853>

Pilarczyk B. & Nestorowicz R., (2010). *Ecological marketing of food products*. Oficyna a Wolters Kluwer Business, Warszawa.

Podda, P. A. & Harold, N. (2019). Corporate Environmental Responsibility: Advantages, Costs and Contradictions. *7th International Scientific Conference IFRS*. 423-430.

Popper, K. & Hansen, T. E. (2014). *The two fundamental problems of the theory of knowledge*, Routledge. p. 485. <https://doi.org/10.4324/9780203371107>

Popper, K. (2005). *The logic of scientific discovery*. Routledge. p. 66. <https://doi.org/10.4324/9780203994627>

Porter, M. E. (1998). *Competitive Strategy. Techniques for Analysing Industries and Competitors*.

Porter, M. E. (2006). *Competitive advantage. Achieving and sustaining better results*, Helion, Gliwice, p. 27.

Pułaska-Turyna, B. (2005). *Statistics for economists*, Difin, Warszawa.

Rajput, N., Sharma, U., Kaur, B., Rani, P., Tongkachok, K., & Dornadula, VHR (2022). Current global green marketing standard: changing market and company branding. *International Journal of System Assurance Engineering and Management*, 13(1), 727-735. ISSN 0975-6809. <https://doi.org/10.1007/s13198-021-01604-y>

Reddy, K. P., Chandu, V., Srilakshmi, S., Thagaram, E., Sahyaja, C., & Osei, B. (2023). Consumers perception on green marketing towards eco-friendly fast moving consumer goods. *International Journal of Engineering Business Management*. <https://doi.org/10.1177/184797902311709>

Rosca, M.I., Tanase, L.D. & Morar, M.G, (2012). Small farmers from rural areas attitude on organic food. *Ann. Univ. Oradea, Econ. Sci. Ser.* July 1, 1209-1214.

Ruschak, M., Caha, Z., Talíř, M., Konečný, M. (2023). The application of CSR in marketing communication and its potential impact on customer perceived value, *Entrepreneurship and Sustainability Issues*, 10(4), 223-244. [https://doi.org/10.9770/jesi.2023.10.4\(14\)](https://doi.org/10.9770/jesi.2023.10.4(14))

Schjoedt, L. & Bird, B., (2014). Control variables: use, misuse and recommended use, In: A. Carsrud, M. Brännback (Eds.), *Handbook of research methods and applications in entrepreneurship and small business*, Cheltenham: Edward Elgar, pp. 136-155. <https://doi.org/10.4337/9780857935052.00013>

Sheth, J. N., & Parvatiyar, A. (2021). Sustainable Marketing: Market-Driving, Not Market-Driven. *Journal of Macromarketing*, 41(1), 150-165. <https://doi.org/10.1177/0276146720961836>

Skowron-Grabowska, B. (2023). Innovativeness in Enterprise Strategies Value Creation and Innovation Multidimensionality. *Management and Production Engineering Review*, 14(3), 27-43. <https://doi.org/10.24425/mper.2023.147188>

Simionescu, M., Strielkowski, W., & Gavurova, B. (2022). Could quality of governance influence pollution? Evidence from the revised Environmental Kuznets Curve in Central and Eastern European countries. *Energy Reports*, 8, 809-819. <https://doi.org/10.1016/j.egy.2021.12.031>

Skare, M., Gavurova, B., & Rigelsky, M. (2023a). Innovation activity and the outcomes of B2C, B2B, and B2G E-Commerce in EU countries. *Journal of Business Research*, 163, 113874. <https://doi.org/10.1016/j.jbusres.2023.113874>

Skare, M., Gavurova, B., & Kovac, V. (2023b). Investigation of selected key indicators of circular economy for implementation processes in sectorial dimensions. *Journal of Innovation & Knowledge*, 8(4), 100421. <https://doi.org/10.1016/j.jik.2023.100421>

Skare, M., Gavurova, B. & Rigelsky, M. (2024a). Transforming power of research and development on inequality and well-being: a European Union perspective within the circular economy framework. *Humanit Soc Sci Commun*, 11, 205. <https://doi.org/10.1057/s41599-024-02650-0>

Skare, M., Gavurova, B., & Rigelsky, M. (2024b). Quantification of the impact of innovations in industry and infrastructure for sustainable circular economy production and consumption. *Journal of Innovation & Knowledge*, 9(1), 100456. <https://doi.org/10.1016/j.jik.2023.100456>

Škare, M., Gavurova, B., & Porada-Rochon, M. (2024c). Digitalisation and carbon footprint: Building a path to a sustainable economic growth. *Technological Forecasting and Social Change*, 199, 123045. <https://doi.org/10.1016/j.techfore.2023.123045>

Solaiman, M., Osman, A., & Halim, M. S. B. A. (2015). Green Marketing: A Marketing Mix Point of View. *International Journal of Business and Technopreneurship*, 5(1), 87-98.

Spulber, D. F. (2007). *Global competitive strategy*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511841651>

Stanisz, A. (2006). *An accessible statistics course using STATISTICA PL on examples from medicine, volume 1, Basic Statistics*. Statsoft, Kraków.

Šimková, Z., Bednářová, L., Danda, R. & Derkawi, H.D. (2023). The rate of use of the Circular Economy in individual sectors. *Acta Montanistica Slovaca*, 28 (1), 13-26. <https://doi.org/10.46544/AMS.v28i1.02>

Taliř, M. & Straková, J. (2023). Innovation of the production process of engineering companies in relation to business portfolio, *Entrepreneurship and Sustainability Issues*, 10(4), 118-134. [https://doi.org/10.9770/jesi.2023.10.4\(8\)](https://doi.org/10.9770/jesi.2023.10.4(8))

Ullah, R., Ahmad, H., Rizwan, S., & Khattak, M. S. (2022). Financial resource and green business strategy: the mediating role of competitive business strategy. *Journal of Sustainable Finance & Investment*. <https://doi.org/10.1080/20430795.2022.2031850>

Urban, W., Krot, K., & Tomaszuk, A. (2023). A cross-national study of internationalisation barriers with reference to SME value chain. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 18(2), 523-549. <https://doi.org/10.24136/eq.2023.016>

Vilkaite-Vaitone, N. & Skackaikiene, I. (2019). Green marketing orientation: evolution, conceptualisation and potential benefits. *Open Economics*. 53-62. <https://doi.org/10.1515/openec-2019-0006>

Vogel, C., Koutsombogera, M. & Costello, R. (2020). Analysing Likert scale inter-annotator disagreement. In *Neur. Approach. Dynam. Sig.* 513 Exchang. Springer, Singapore, pp. 383-393. https://doi.org/10.1007/978-981-13-8950-4_34

Wang, C., Brabenec, T., Gao, P., & Tang, Z. (2021). The Business Strategy, Competitive Advantage and Financial Strategy: A Perspective from Corporate Maturity Mismatched Investment. *Journal of Competitiveness*, 13(1), 164-181. <https://doi.org/10.7441/joc.2021.01.10>

Wang, Z. & Wang, L. X. 2019. Research on Ecological Marketing Strategy of Modern Enterprises-Take MI Company as an Example. *Ekoloji*. 28(107), 3593-3603.

Wojnarowska, M. (2011). Consumer behavior in the context of eco-marketing, in: *Marketing of the Future Trends. Strategies. Instruments Enterprise and Consumer in an Evolving Environment*, University of Szczecin, *Scientific Journals*, No. 661, *Economic Problems of Services*, No. 73, Szczecin, p. 208.

Yuan, Y., Wang, W. & Yin, S. H. (2021). Research on Ecological Compensation System: Based on Ecosystem Service Value. *Fresenius Environmental Bulletin*, 30(7A), 8950-8956.

Zaremba, S. (2009). *Ecological marketing*, Wyd. Uniwersytetu Ekonomicznego, Wrocław, pp. 102-103.

Zhang, Y. X., Gao, X. & Liu, S. K. (2022). Research on the Coordinated Development Mode of Enterprise Green Development and Economic Growth. *Journal of Environmental Protection and Ecology*, 23(2), 874-881. ISSN 1311-5065.

Ziyadin, S., Kazbekova, K. Rysbayeva, B. & Shakbutova, A. (2019). The Concept of Ecological Marketing and Features of Its Application. *Vision 2025*. 11374-11379.

Author Contributions: The authors contributed equally; they have read and agreed to the published version of the manuscript.

Malgorzata ŁĘGOWIK-MAŁOLEPSZA is as an Assistant Professor at the Częstochowa University of Technology, Faculty of Management. As a member of the Department of Management and Entrepreneurship, she focuses on topics to management accounting, lean management concepts and cost management. Her current main research are eco marketing and sustainable development.

ORCID ID: <https://orcid.org/0000-0002-7698-9607>

Jaroslav KOLLMANN is an Assistant at the Institute of Technology and Business, Faculty of Corporate Strategy. As a member of the Department of Management, he focuses on teaching subjects related to process management and business management. His current main research interests are the latest development trends in organisational and management structures and optimization of manufacturing.

ORCID ID: <https://orcid.org/0000-0003-4110-145X>

Daniel CHAMRADA is an Assistant at the Institute of Technology and Business, Faculty of Corporate Strategy. As a member of the Department of Management, he focuses on teaching subjects related to project management and crisis management. His current main research interests is theory of constraints.

ORCID ID: <https://orcid.org/0000-0002-3934-7840>

Copyright © 2024 by author(s) and VSI Entrepreneurship and Sustainability Center

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>



Open Access