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ENVIRONMENTALLY FRIENDLY PRODUCTS – HOW CUSTOMERS FROM GENERATION Z IN V4 COUNTRIES ASSESS THIS APPROACH[6]

Funding information: International Visegrad Fund Grant Number IVF 22230264. This article presents the results of a survey conducted in the first half of 2023. A total of 812 questionnaires were obtained from current and potential consumers (individual and B2B) in the Visegrad countries. The survey's goal was to find out how consumers perceive and evaluate the quality and pro-ecological factors/challenges of the products of the electrical machinery industry, in the context of their declared personal purchases. Among other things, it sought to establish the actions consumers expect from manufacturers if they want to increase the market share of good-quality and environmentally friendly products. Improvements to the quality of products, with reductions in their negative environmental impact throughout their life cycle, were noticed most in Hungary and Poland. In all countries surveyed, consumers agreed most strongly with the statement that to increase the market share of good quality and environmentally friendly products, producers should enable recycling, disposal, and so on, and improve the availability of information.

Keywords: green product, pro-ecological product management, purchase factors, pro-ecological consumer behavior, circular economy.

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1. INTRODUCTION

The European Union (EU) has established ambitious environmental objectives for 2050 as part of its strategy to combat climate change and promote sustainability. These objectives encompass (European Commission):

- Climate Neutrality: The EU aims to achieve net-zero greenhouse gas emissions by 2050, necessitating the implementation of measures such as carbon removal and emission reductions to offset any remaining emissions.
- Renewable Energy Transition: By 2030, the EU seeks to increase the proportion of renewable energy sources in its energy mix to a minimum of 32%, with further increases targeted by 2050. This transition entails reducing dependence on fossil fuels and bolstering investment in renewable energy technologies like wind, solar, and hydroelectric power.
- Energy Efficiency Improvement: The EU targets a minimum 32.5% improvement in energy efficiency by 2030 compared to 2007 levels. This endeavor involves reducing energy consumption across sectors such as buildings, transportation, and industry through initiatives like deploying energy-efficient appliances, enhancing building insulation, and promoting transportation electrification.
- Biodiversity Preservation: By 2050, the EU aims to halt biodiversity loss and restore degraded ecosystems. This encompasses safeguarding and rehabilitating habitats, advocating for sustainable land use practices, and preventing the extinction of plant and animal species.
- Circular Economy Realization: The EU endeavors to transition to a circular economy model by 2050, characterized by enhanced resource efficiency, minimized waste generation, and the design of products for reuse, recycling, and repair. Achieving this objective entails enacting policies to foster eco-design, prevent waste, and encourage recycling, alongside promoting sustainable consumption and production practices.

These objectives are delineated in various EU policy documents such as the European Green Deal and the EU's long-term climate neutrality strategy for 2050. They underscore the EU's commitment to addressing environmental concerns and fostering a sustainable future for its populace.

The essence of the circular economy is to provide optimal conditions for population development while respecting the earth's resource constraints (Šimková, Bednárová, Danda, and Derkawi, 2023; Szczygieł et al., 2022). As part of the circular economy, a pro-environmental approach to products at their life cycle every stage is becoming more significant. Since it became clear that human activities are some of the most harmful factors in the deterioration of the environment and natural resources, environmental issues have become a priority for governments, organisations, and individuals (Ardito, Dangelico, 2018; Buysse, Verbeke, 2003; Michelino et al., 2019; Szczygieł 2020). As a result, it is an increasingly common theme both in the literature and in the business practice of various organisations.

Companies also engage in green practices to improve their reputation in the eyes of customers (Griskevicius et al., 2010; Lit. 2010) and to attract a broader customer base, that is, consumers who are more in-tune with environmental issues (Peattie, 2001) when they make their own assessments during purchasing decisions (Truffer et al.,2017). Sustainability issues of environmentally oriented business operations are becoming an intriguing topic of research discussion amidst business dynamics and competitive

advantage escalation (Wang, 2019; Soewarno et al., 2019; Fura, 2022; Wang, 2018; Barbu et al., 2022). Growing public concern over the environmental problems endangering our world has increased the public interest in "green" corporate practices (Centobelli, Cerchione, Esposito, 2020).

The topic of consumer decision-making has received extensive analysis in international literature (Kucera, Kaderabkova, 2023). In recent years, marketing professionals have paid increasing attention to the growing importance of pro-environmental determinants taken into account during consumer choices (Mazurek-Łopacińska, Sobocińska, Krupowicz, 2022; Deng, Yang, 2022). The factors influencing consumers' intention to make green purchases can be divided into three main groups (Zhuang, Luo, Riaz, 2021): cognitive factors, individual consumer characteristics, and social factors. Customers recently tend to prefer natural and environmentally friendly products, so such products will have a good image and satisfy customers. Certain product groups are bought on impulse, and some purchases result from the conscious choices of customers, influenced by, among other things, the culture of the country of origin and the process of self-education (Saracevic, Schlegelmilch, 2021). Canadian studies highlight the behaviour category of health-seeking, resulting from lifestyle and environmental factors (Lalonde, 1974). The research of evolving declarations, attitudes, and pro-environmental behaviours among consumers, producers, governments, and third- and fourth-sector organisations over time is especially valuable in the context of cultural similarities and differences. Knowledge in this area is the basis for building effective and efficient strategies for different stakeholder groups and enabling the implementation of the assumptions of the circular economy (Zhou et al., 2018; Mentel, Hajduk-Stelmachowicz, 2020; Zhou et al., 2021).

The article aims to present opinions on how consumers from Poland, Slovakia, Hungary, and the Czech Republic perceive and evaluate quality and pro-ecological factors/challenges relating to products from the electromechanical industry in the context of personal purchasing decisions. Pro-ecological purchase motives and factors shaping consumer behaviour are vitally important given the challenges posed by globalization. Consumers can significantly influence producers (Liao, Liu, 2021) through their actions (such as boycotts), and bring about a pro-ecological evolution or even revolution in their business strategies.

2. MATERIAL AND METHODS

A survey questionnaire containing different types of wording was used to carry out the research, including: Specify to what extent you agree with the following statements regarding the quality and environmental aspects of the products. Participants (consumers) were instructed to rate each statement's compliance on a five-point Likert scale (1 represented the interviewee's complete disagreement with the suggested sentence, and 5 showed the total agreement). Several respondents from V4 countries provided the data for the survey. The questionnaires were distributed via email, LinkedIn, WhatsApp, and Facebook and gained through face-to-face interviews conducted by the research team members. The questionnaire was developed in English. A total of 812 questionnaires were submitted, but only 796 of them were approved for further examination after data accuracy and completeness checks. A total of 80 respondents (20 from each of the four countries surveyed) participated in the pilot tests. At the stage of pilot studies, attempts were made to check the correctness of the formulated questions and their correct interpretation (due to cultural and linguistic differences), the credibility of the answers, and the correctness and

completeness of the data for further analysis. Following suggestions for improving the survey instrument, the modified questionnaire from English was translated into national languages for delivery to the target groups in each country. The maximum age for respondents was left unspecified, but they were all at least 18 years old. Detailed characteristics of the respondents in terms of such socio-economic characteristics as country of origin, marital status, gender, education, employment, and number of people in the household are presented in Table 1.

The findings were presented in percentage tables, the quantitative data were described using basic descriptive statistics, and the non-parametric Kruskal-Wallis ANOVA test was used to look for differences and relationships (Gopal 2006; Kennard, Gould, Putz, Fredericksen, Morales 2002, Aczel, 2018).

Table 1. Characteristics of respondents

Features	%(N)	Features	%(N)
Country		Marital status	
Poland	52% (415)	single	64% (508)
Czech Republic	17% (138)	married	6% (46)
Hungary	17% (133)	partners relationship	29% (229)
Slovakia	14% (110)	widow/divorced	1% (13)
Gender		Education	
Male	36% (285)	elementary	17% (134)
Female	61% (489)	medium	50% (397)
I don't want to answer	3% (22)	higher	33% (265)
Employment		Number of people in the household	
Student	82% (651)	one	3% (23)
Employee	13.5% (109)	two	12% (98)
Other	4.5% (36)	three or four	26% (203)
		over 4	59% (472)

Source: own study based on research results.

This test is the non-parametric equivalent of a single-factor analysis of variance. The test checked whether n independent samples come from the same population or a population with the same median. The abundance of each specimen need not be the same. At most ten groups can be compared. The null hypothesis (H0) says that the distribution functions in the compared populations are equal, i.e., that the variables under study do not differ or de pend on one another. The results of the analyses were presented on frame charts. The research was conducted at the significance level of $\alpha=0.05$. It is presumptive that: when $p<0.05$, there is a statistically significant relationship (indicated by *); $p<0.01$, there is a highly significant correlation (**); $p<0.001$, there is a very high statistically significant relationship (***).

3. RESULTS

For each statement, the average values of the concordance evaluation were calculated, as well as the modal value (the value that appears most frequently in the assessment) and the indicators of variation in the assessments (standard deviation and coefficient of

variation). The data are included in Table 2. The statements are ordered from highest average to lowest (lowest concordance).

Table 2. Descriptive statistics of agreeing with individual statements

	$\bar{x}$	Mo	NMo	σ	Vz
To increase the market share of good quality and environmentally friendly products, you should: enable recycling, disposal, etc.	3.5	4	273	1.01	28%
To increase the market share of good quality and environmentally friendly products, you should: improve information availability	3.48	4	319	0.96	27%
To increase the market share of good quality and environmentally friendly products, you should: extend service life	3.46	3	287	0.99	28%
In the last 5 years, the number of good quality and environmentally friendly products increases	3.44	4	324	0.94	27%
To increase the market share of good quality and environmentally friendly products, you should: reduce price	3.38	3	285	1	29%
To increase the market share of good quality and environmentally friendly products, you should: better to expose	3.33	3	323	0.93	28%
I notice an improvement in the quality of products and, at the same, time a reduction in the negative impact on the environment throughout their life cycle	3.07	3	347	0.97	31%
In terms of products, I believe that the EU's environmental goals by 2050 will be achieved	2.95	3	313	1.07	36%
In the last 5 years, the number of good quality and environmentally friendly products stays unchanged	2.61	3	279	1.05	40%
In the last 5 years, the number of good quality and environmentally friendly product decreases	2.58	3	260	1.09	42%

Legend: Respondents from Poland, Czech Republic, Slovakia, Hungary were asked: N=796. “You should” should be understood as “producers should”.

Source: Own study based on surveys carried out in Poland, Slovakia, Hungary, The Czech Republic.

After examining the information in Table 2, it can be found that most respondents agreed that to increase the market share of good quality and environmentally friendly products, you should: enable recycling, disposal, etc. (mean score of 3.5). Similarly high was the rating of agreement with the statement that to increase the market share of good quality and environmentally friendly products, you should: improve information availability (mean score of 3.48). In the above cases, the dominant score was 4 points (median also 4 points). A slightly lower score was assigned to the statement that in the last 5 years, the number of good quality and environmentally friendly products increases (3.44).

Respondents were least likely to agree with the statement that: In the last 5 years, the number of good quality and environmentally friendly products decreases (mean score of

2.58). In this case, the coefficient of variation was also the highest, at 42%. That means the rating distribution was the most diverse (as shown by the highest standard deviation value of 1.09).

It was examined whether the country of origin and socio-economic characteristics influence opinion on Statements regarding the quality and environmental aspects of the products. Table 1 presents the findings.

Table 3. Kruskal-Wallis ANOVA test results. Statements regarding the quality and environmental aspects of the products vs country

	Country
I notice an improvement in the quality of products, and at the same time, a reduction in the negative impact on the environment throughout their life cycle	0.0417***
In the last 5 years, the number of good quality and environmentally friendly products decreases	0.0017
In the last 5 years, the number of good quality and environmentally friendly products stays unchanged	0.0014
To increase the market share of good quality and environmentally friendly products, you should: Enable recycling, disposal, etc.	0.0075

Source: Own study based on surveys conducted in Poland, Slovakia, Hungary and the Czech Republic, N=796.

The analyses show (Table 3) that the country of origin influenced the assessment of the degree of concordance with the statements: 1) I notice an improvement in the quality of products and, at the same time, a reduction in the negative impact on the environment throughout their life cycle $p<\alpha$ (p=0,0417), 2) In the last 5 years, the number of good quality and environmentally friendly products decreases $p<\alpha$ (p=0,0017), 3) In the last 5 years, the number of good quality and environmentally friendly products stays unchanged $p<\alpha$ (p=0,0014), and the opinion: 4) To increase: you should: enable recycling, disposal, etc. $p<\alpha$ (p=0,0075).

In all the Visegrad countries surveyed, the statement (Figure 1) that to increase the market share of good quality and environmentally friendly products, you should enable recycling, disposal, etc., was indicated by respondents the most times. In each of the aforementioned countries, this response received the highest overall score (average score of 3.48 in Poland, 3.42 in Slovakia, 3.38 in the Czech Republic, and 3.78 in Hungary). Residents of Hungary agreed with this statement the most (3.77) and the Czech Republic the least (3.78).

Respondents were least likely to agree with the statement relating to the opinion that: In the last 5 years, the number of good quality and environmentally friendly products decreases. Of the nations surveyed, the few Hungarians (mean score of 2.32) and Slovaks (2.41) found this statement to be factually accurate. The statement: In the last 5 years, the number of good quality and environmentally friendly products stays unchanged received the highest mean score (2.75) among respondents in the Czech Republic.

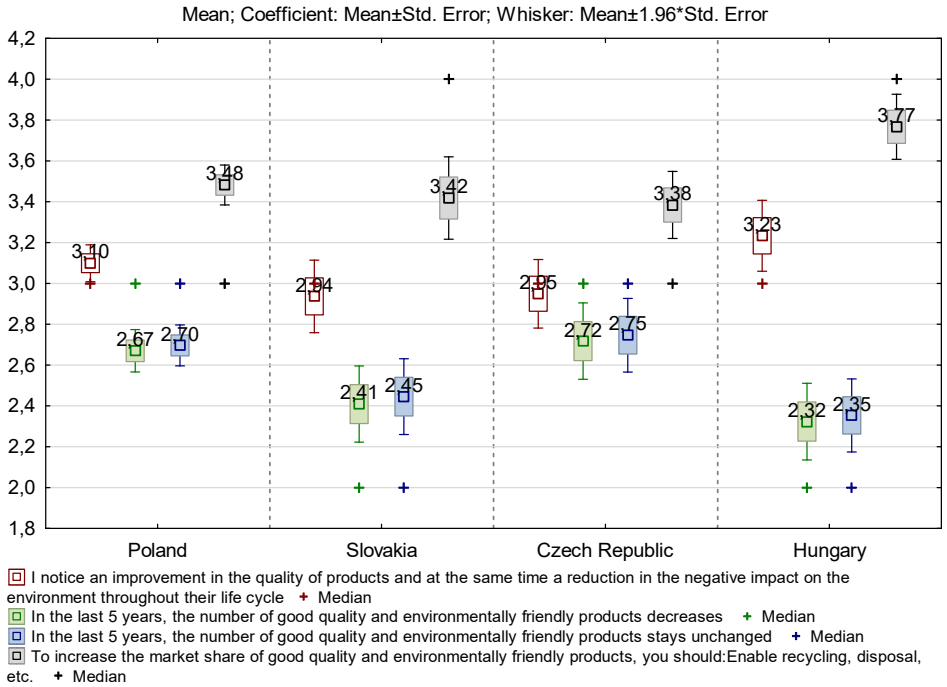


Figure 1. Statements regarding the quality and environmental aspects of the products vs. country

Source: Own study based on surveys in Poland, Slovakia, Hungary, Czech Republic, N=796.

An improvement in the quality of products and, at the same time, a reduction in the negative impact on the environment throughout their life cycle was noticed to the greatest extent by Hungarians (mean score of 3.23) and Poles (3.10).

Table 4. Kruskal-Wallis ANOVA test results. Statements regarding the quality and environmental aspects of the products vs gender

	Gender
In terms of products, I believe that the EU's environmental goals by 2050 will be achieved	0.0000
To increase the market share of good quality and environmentally friendly products, you should: improve information availability	0.0321
To increase the market share of good quality and environmentally friendly products, you should: better to expose	0.0302

Source: Own study based on surveys conducted in Poland, Slovakia, Hungary and the Czech Republic, N=796.

From the analyses of the results of our own research (Table 4), it can be seen that gender influenced the evaluation of the following statement: In terms of products, I believe that the EU's environmental goals by 2050 will be achieved $p<\alpha$ (p=0,0000). In addition, the gender of those questioned played a role in indicating response options relating to the

statements: To increase the market share of good quality and environmentally friendly products, you should: 1) improve information availability $p<\alpha$ ($p=0,0321$) or 2) better to expose $p<\alpha$ ($p=0,0302$).

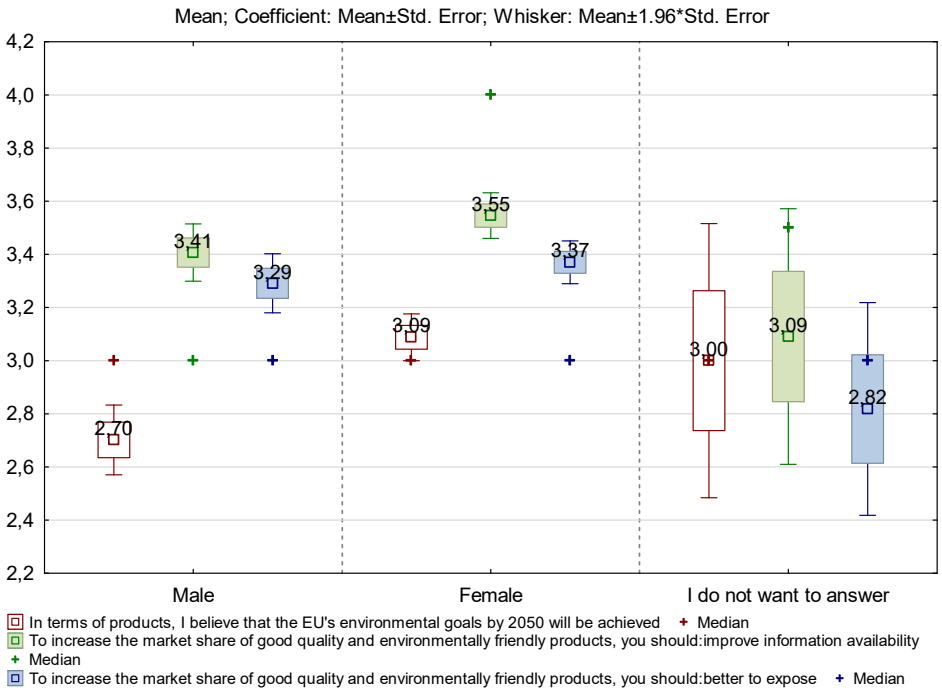


Figure 2. Statements regarding the quality and environmental aspects of the products vs. gender

Source: Own study based on surveys conducted in Poland, Slovakia, Hungary and the Czech Republic, N=796.

Analysis of the data visualized in Figure 2 shows that men (score of 2.70) from the V4 countries were least likely to agree with the statement that: In terms of products, I believe that the EU's environmental goals by 2050 will be achieved. Women declared a significantly more optimistic attitude on this issue (3.09). In addition, women indicated more frequently the importance of the availability, transparency, unambiguity, and reliability of information confirming a product's environmental and qualitative properties (3.55). This group of respondents also emphasized the importance of better exposition of high-quality products as well as of environmentally friendly characteristics in order to distinguish them from others (3.37). Interestingly, the highest number of respondents who did not wish to be differentiated by gender (2.82) disagreed with the statement on the need for better product exposition.

Women have strictly assigned social roles within which they are strongly responsible for organising and running the household (Hajduk-Stelmachowicz, Stelmachowicz, 2019). This is associated with decision-making processes related to, among other things, more frequent purchases of certain groups of products than is the case for men. This may partly explain the cited research results.

Table 5. Kruskal-Wallis ANOVA test results. Statements regarding the quality and environmental aspects of the products vs education

	Education
In the last 5 years, the number of good quality and environmentally friendly products increases	0.0006
To increase the market share of good quality and environmentally friendly products, you should: improve information availability	0.0312
To increase the market share of good quality and environmentally friendly products, you should: Enable recycling, disposal, etc.	0.0061

Source: Own study based on surveys conducted in Poland, Slovakia, Hungary and the Czech Republic, N=796.

The statistical analyses also show that education had an impact on the evaluation of the statement (Figure 3): In the last 5 years, the number of good quality and environmentally friendly products increases $p<\alpha$ (p=0,0006), and on the evaluation of the variants of the statements: to increase the market share of good quality and environmentally friendly products, you should: improve information availability $p<\alpha$ (p=0,0312), and to increase the market share of good quality and environmentally friendly products you should: enable recycling, disposal, etc. $p<\alpha$ (p=0,0061).

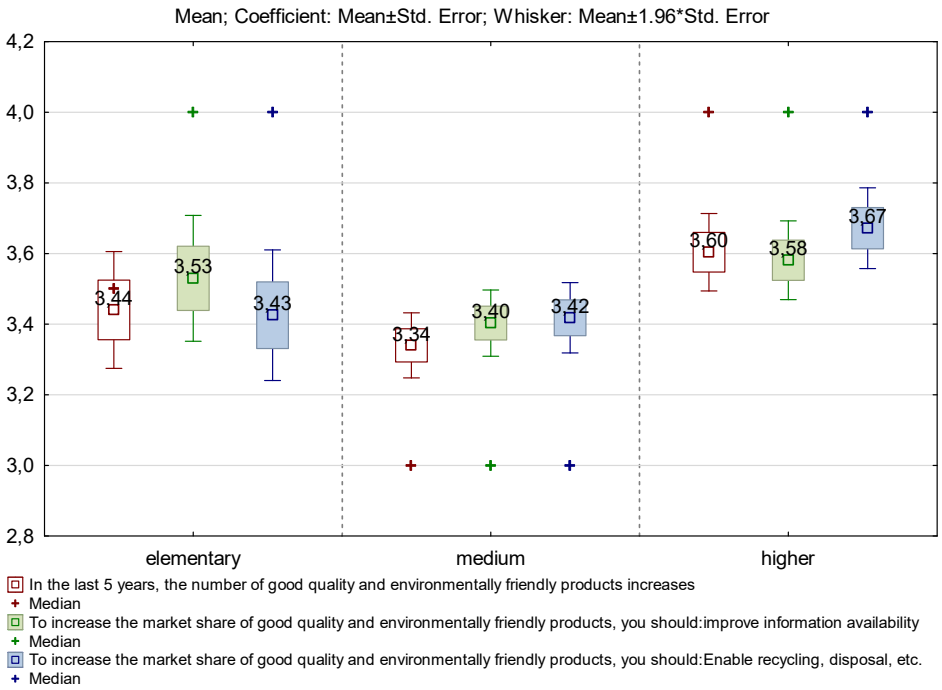


Figure 3. Statements regarding the quality and environmental aspects of the products vs. education

Source: Own study based on surveys conducted in Poland, Slovakia, Hungary and the Czech Republic, N=796

Respondents with higher education were the most likely to agree with the statements cited in Figure 3 relating to enabling recycling and disposal (3.67) and improving information availability (3.60). They also rated the positive changes relating to the increase in eco-friendly product availability the highest. Surprisingly, respondents with a medium level of education were least likely to see the need to improve information availability or to see an opportunity for product market development by enabling recycling, disposal, etc. Those with higher education evidently had a higher level of environmental awareness, which may have been reflected in their views, preferences, attitudes, behaviour, and expectations regarding decisions to consider quality and environmental determinants when purchasing products.

The analysis of previous research results from Polish companies implementing organisational eco-innovation also indicates the importance of the level of schooling, education, and knowledge in the context of implementing eco-innovative solutions in the personal and professional sphere (Hajduk-Stelmachowicz, 2016; 2021).

Table 6. Kruskal-Wallis ANOVA test results. Statements regarding the quality and environmental aspects of the products vs employment

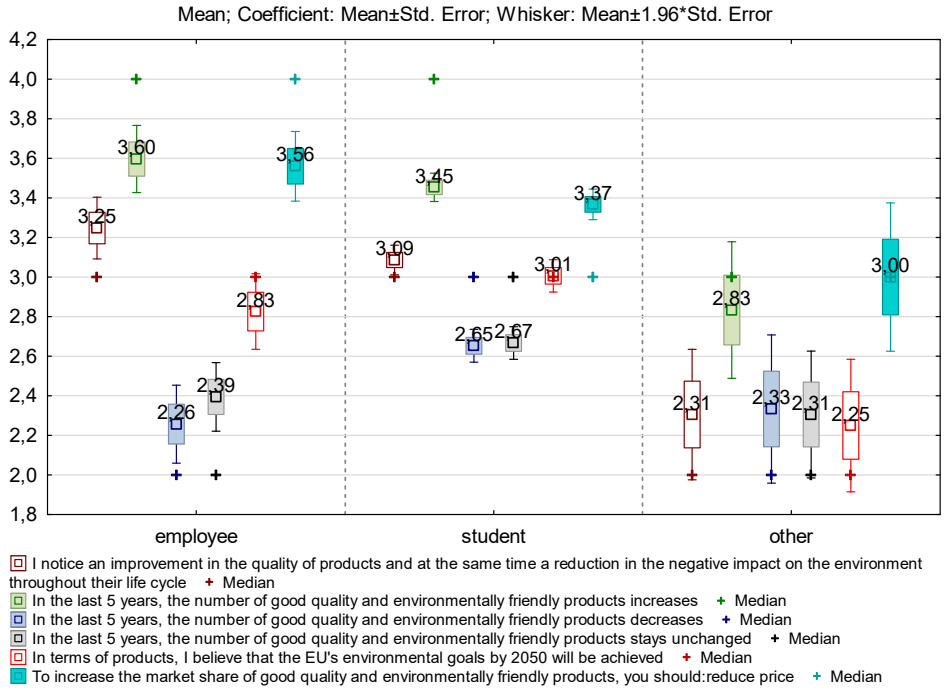
	Employment
I notice an improvement in the quality of products and, at the same time, a reduction in the negative impact on the environment throughout their life cycle	0.0000
In the last 5 years, the number of good quality and environmentally friendly products increases	0.0002
In the last 5 years, the number of good quality and environmentally friendly products increases	0.0006
In terms of products, I believe that the EU's environmental goals by 2050 will be achieved	0.0001
To increase the market share of good quality and environmentally friendly products, you should: reduce price	0.0075
To increase the market share of good quality and environmentally friendly products, you should: Enable recycling, disposal, etc.	0.0043

Source: Own study based on surveys conducted in Poland, Slovakia, Hungary and the Czech Republic, N=796.

The results of the statistical analyses also indicate that issues related to the fact/form of employment had an impact on the evaluation of statements relating to product quality and environmental characteristics in the Visegrad countries (Figure 4).

With the statement: To increase the market share of good quality and environmentally friendly products, you should: reduce price to the greatest extent agreed firstly by employees (3.56), secondly by students (3.37). The 'others' group (including self-employed, employer, registered as unemployed, farmer, a firm, retired/pensioner) identified with the statement to the lowest extent (3.0). The same was true for the sentence that the respondents notice an improvement in the quality of products and, at the same time, a reduction in the negative impact on the environment throughout their life cycle (mean scores of 3.25 for employees, 3.09 for students, 2.39 for others).

Students expressed the highest confidence that, in terms of products, the EU's environmental goals by 2050 will be achieved (3.01). As before, the 'others' group was the least convinced that the indicated targets would be achieved by the target date (2.25).



Legend: other includes self-employed, employer, registered as unemployed, farmer, B2B, retired/pensioner)

Figure 4. Statements regarding the quality and environmental aspects of the products vs. employment

Source: Own study based on surveys conducted in Poland, Slovakia, Hungary and the Czech Republic, N=796.

The perspective of those with more work experience (including post-career experience) and those who are employers or entrepreneurs, differed markedly from the optimistic statements of the students. People running a business/businesses encounter formal and legal barriers daily and understand that the implementation of assumptions is associated with, for example, financial investments, capital (including intellectual, social, tangible, relational, and cultural), economic stability, and politics. Other studies also unequivocally demonstrate this (Okrah, Hajduk-Stelmachowicz, 2020; Małkowska et al., 2022). Unemployed people with a limited disposable budget, often affected by energy poverty, understanding their economic situation, showed great scepticism in this respect.

To the statement that in the last 5 years, the number of good quality and environmentally friendly products increases, employees (3.60) agreed to the greatest extent, followed by students (3.45). The group of others agreed to the quoted opinion to the lowest degree.

The analyses of the own research results show that marital status also (Table 7, Figure 5) had an impact on the assessment of, i.a., what pricing strategy to use to generate more profits by eco-innovative enterprises.

Table 7. Kruskal-Wallis ANOVA test results. Statements regarding the quality and environmental aspects of the products vs material status

	Marital status
I notice an improvement in the quality of products and, at the same time, a reduction in the negative impact on the environment throughout their life cycle	0.0217
In the last 5 years, the number of good quality and environmentally friendly products increases	0.0032
In the last 5 years, the number of good quality and environmentally friendly products decreases	0.0018
In the last 5 years, the number of good quality and environmentally friendly products stays unchanged	0.0014
In terms of products, I believe that the EU's environmental goals by 2050 will be achieved	0.0098
To increase the market share of good quality and environmentally friendly products, you should: reduce price	0.0214

Source: Own study based on surveys conducted in Poland, Slovakia, Hungary and the Czech Republic, N=796.

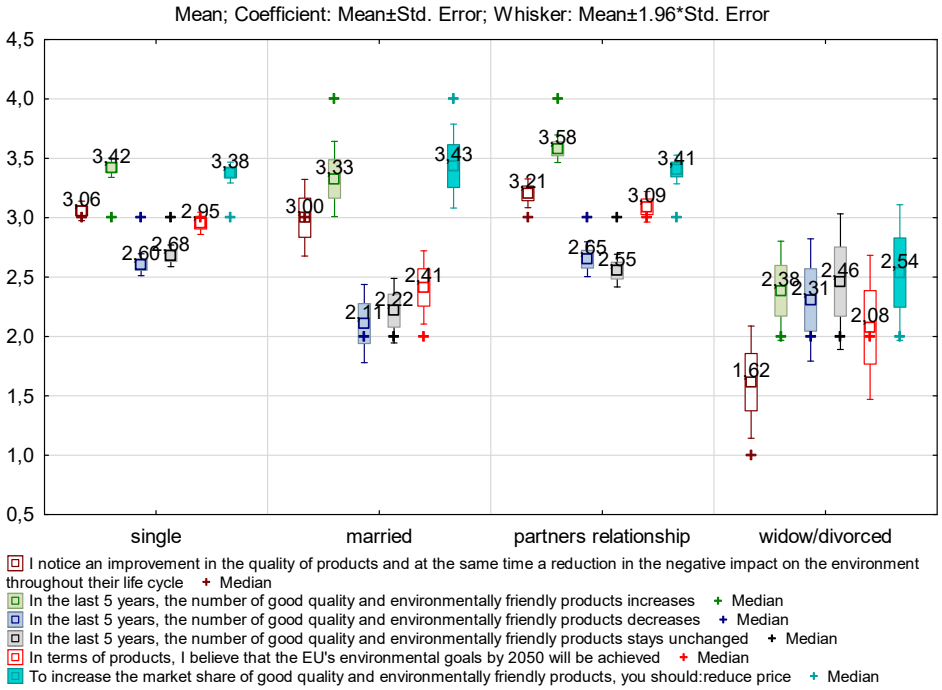


Figure 5. Statements regarding the quality and environmental aspects of the products vs. marital status

Source: Own study based on surveys conducted in Poland, Slovakia, Hungary and the Czech Republic, N= 796.

The statement that the price should be lower in order to increase the market share of high-quality pro-ecological products was mostly agreed by married respondents (average score 3.43) and those remaining in other relationships, e.g., partnerships (3.41) (Figure 5). This is justified mainly by the fact that persons in formal or informal relationships provide not only for themselves and their partners/spouses but also for children. Referring to Engel's law, the structure of expenses resulting from, among others, the so-called life cycle of a family/relationship (especially those with offspring) depends on the level of disposable income and determines purchasing decisions.

An improvement in the quality of products and, at the same time, a reduction in the negative impact on the environment throughout their life cycle was noticed by persons remaining in partner relationships (average 3.21), single (3.06), married (3.00). The widows/divorced group was the most critical of this statement (1.62). Similarly, its representatives showed the highest pessimism (2.08) that the EU's environmental goals will be achieved by 2050. The interviewed group of widows/divorced indicated that they noticed an increase in the number of good quality environmentally friendly products to the lowest extent in the last 5 years (2.38).

4. DISCUSSION AND CONCLUSIONS

A global survey conducted among nine developed countries indicates that 50% of the respondents are willing to purchase green products, and 24% of them prefer to pay more for green products (Ranjan, Jha, 2019). Concern for the environment has been found to positively influence the willingness of Gen Z consumers to pay more for green products. (Gomes et al., 2023).

Personal, self-reported purchasing behaviour as subjective norms and willingness to pay does not always transfer to factual purchasing behaviour. (Moser, 2016). For example, some survey results revealed that 65% of the respondents expressed a desire to purchase environmentally friendly products, and only 26% of those individuals actually followed through with their intention, highlighting a contradictory aspect of consumer behaviour in this context (White Hardisty, Habib, 2019). This discrepancy suggests that personal subjective norms and willingness to pay, as self-reported measures of purchasing behaviour, do not always translate into real-world consumer choices (Moser, 2016).

The design and manufacture of high-quality, environmentally friendly products throughout the life cycle requires more financial outlays, which entail costs (e.g., reliability, safety, etc.), which are reflected in the price. Consumers, guided by fashion, the constant need to change to a newer model, fearing deliberate aging of the product, may forget about pro-ecological issues - especially those relating to benefits in the long term. In the era of a pandemic, high inflation, recession, and energy poverty, the higher price of a pro-ecological product, when confronted with household budget constraints (e.g., as a result of loans taken), may lead to resignation from purchasing pro-ecological products from the electromechanical sector. In this case, pro-environmental shopping can be an expression of fashion, a desire to belong to a specific social group, the luxury. In present reality, many manufacturers omit the so-called external effects during valuations with impunity. It makes their products seemingly cheaper. In this area, the institutions of individual countries are still inefficient. The subject of shaping the prices of pro-ecological products in such a way that they are economically justified and acceptable on the market is an area of interest to a wide range of stakeholders from Europe, the USA, and Asia in

the era of globalization. Research is being undertaken on the issues of designing green products in competitive supply chains (Zhu He, 2017).

The findings from Malaysia demonstrate that environmental attitude, eco-labelling, and cultural value (specifically man-nature orientation) have a significant impact on green purchase intention. Surprisingly, the results indicate that premium price does not moderate this relationship, contradicting previous studies and opinion polls that suggested it is a prominent barrier for consumers to act in line with their environmentally conscious beliefs. Furthermore, the study reveals that education level and gender play a significant positive moderating role. This implies that highly educated individuals, particularly female consumers, exhibit robust motivational factors toward green purchase intentions (Brahim et al., 2016).

The findings from a survey conducted among 956 consumers in the United Kingdom and China indicate a noteworthy and statistically significant correlation between consumers' awareness of the environmental benefits of green products and their intention to make purchases. However, it was observed that certain consumption ideals significantly moderated this relationship. In the United Kingdom, for instance, a heightened environmental consciousness strengthened the connection between awareness of green benefits and purchase intention. Conversely, in China, the relationship was bolstered by status consciousness and value-for-money consciousness (de Silva et al., 2021).

As the performed analysis shows, the impact of pro-environmental aspects on customer purchasing decisions is becoming increasingly important, not only in the food, cosmetics, pharmaceutical, and fashion sectors (The Economist, 2021) but also in industrial processing. Decision-making itself, in turn, depends on many aspects. The methodology presented in the article and the obtained research results allowed receiving answers to all the posed questions and to formulate conclusions.

Poles and Hungarians noticed the most improvement in the quality of products while reducing their negative impact on the environment throughout the life cycle.

Respondents from all the surveyed countries of the Visegrad group most often indicated that producers should enable recycling, disposal, etc., to increase the market share of good quality and environmentally friendly products. In second place were recommendations concerning the expectation of better availability of information (regarding quality and environmental friendliness). Customers (especially women) expect producers, the government, and research organizations to take specific actions in this regard.

Women from the surveyed countries are more likely than men to believe that the EU's environmental goals by 2050 will be achieved. This group of respondents also emphasized the importance of better exposure to high-quality parameter products, such as pro-ecological ones, in order to distinguish them from others.

The statement that to increase the market share of high-quality pro-ecological products, their prices should be lower was indicated the most by the respondents who were married and staying in partnerships.

Further issues related to a comprehensive quality and pro-ecological approach to the product throughout its life cycle in not only the electromechanical sector require continued research – both from the customer and the enterprise or the state. There is a research gap here. The issue of a systemic, strategic approach to environmental management requires understanding the needs, motives, and other specific conditions affecting specific behaviours of consumers and producers. It will be the subject of further scientific and research studies.

Limitations: The research was conducted in 2023. Unfortunately, achieving similar numbers in the compared groups of respondents was not possible. Nevertheless, through the use of non-parametric statistics, a comparative analysis was conducted between the studied countries of the Visegrad Group, albeit to a limited extent.

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