

Article

Determinants of Purchase Behavior of Young E-Consumers of Eco-Friendly Products to Further Sustainable Consumption Based on Evidence from Poland

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Abstract: The aim of the article is to analyze the purchasing behavior of young e-consumers of organic products in regard to sustainable consumption. The article highlights the importance of the Internet in the intensification of purchasing processes of modern consumers and presents the results of the study conducted in November 2021 using a survey questionnaire involving a sample of 620 respondents. As a result of statistical analyses, a structural model was estimated using the maximum likelihood method. It allowed us to determine the variables that influence the purchasing behavior of young e-consumers, as well as to illustrate the degree of the influence between endogenous variables. Defining these relationships made it possible to determine the factors that affect the buying behavior of young e-consumers in the market of organic products. The results of the study and the analysis of the model have led us to the conclusion that purchasing behavior is mainly determined by product information derived from various sources involving product and service quality or warranty, thus giving the consumers the right to file a complaint. The balance between these factors creates the grounds for sustainable consumption and putting emphasis on the specified groups of factors by the producers will allow shopping activities to intensify among young e-consumers. The ongoing SARS-CoV-19 pandemic has posed a serious limitation to an effective performance of the following study. In the future, the authors intend to carry out similar research among overseas respondents so that it is possible to verify if the current trends can also be traced in foreign markets.

Keywords: e-consumers; buying behavior; sustainable consumption; consumer; organic products



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1. Introduction

In today's market environment, the increase in market activity has led to a complete redefinition of the market role of buyers who, being market participants, intensify their involvement in its functioning [1,2]. The new economic reality is governed by entirely new technologies that are in close relationship with each other, intertwining and conditioning each other. The new modern economy is digital [3]. The role of the consumer as a passive spectator has evolved into a partnership requiring high-quality communication in the form of an ongoing dialogue [4,5].

Over the past few decades, there have been numerous technological changes referred to as Web 1.0, 2.0, 3.0. Access to Internet resources has developed, mainly offered in the form of LTE (Long Term Evolution) [6]. There are lots of products on the market with a huge range of possibilities, manifested by access to the network. The use of smartwatches, smartphones, or tablets enables mobile use of the Internet, which makes it possible to communicate without physical contact [7]. That can be extremely important in times

of crises [8] as enterprises need to pay close attention to all social, environmental, and economic crises faced by the global community [9] as these components contribute to sustainability [10]. These components also contribute to the development of healthy lifestyle digital technologies that affect consumption patterns—especially of young people [11].

Due to the increasing environmental awareness of consumers, companies have had to react by introducing sustainability strategies. Today, almost all companies and organizations regularly publish sustainability reports [12,13] and, while designing their market offer, take into account aspects of “sustainable development”. One element is related to green products.

Sustainable national development obviously depends on the profitability, global performance of enterprises [14,15], and renewable energy production [16]; however, sustainable consumption should also play a prominent role in the formulation and implementation of the sustainable development goals [17,18]. Transforming both production systems and consumption patterns has become one of the most important trends towards achieving sustainable development [19]. Sustainable production based on the green-marketing approach aims to protect the environment while producing goods and services. Thus, consumers, while satisfying their own needs, can easily find environmentally friendly products in the market [20]. Buying green products, reducing consumption, eliminating disposable carrier plastic bags, or buying second hand products are important patterns in sustainable consumption [21], while excessive consumption causes many negative environmental effects and aware, responsible consumers prefer organic products, or they keep other sustainable consumption patterns [22].

The aim of this article is to describe the factors influencing the purchase of environmentally friendly products by young e-consumers as a determinant of sustainable consumption. A specific objective of the research was to verify different types of behaviors as well as to determine the factors that most often influence the purchase of organic products.

The paper is based on an empirical study conducted in November 2021 on a research sample of 620 respondents in a survey of Polish e-consumer attitudes towards organic products using a CAWI-compliant survey questionnaire.

2. Theoretical View

2.1. E-Consumers in the E-Services Market

In economics, the “consumer” is considered in terms of choice theory, representing the entity that consumes and creates demand. Typically, the term is identified with the purchaser who consumes the products bought and enjoys their use value [23]. In marketing theory, the consumer is the starting point of marketing activities that are undertaken in the market for goods and services. The purpose of these activities is to direct the marketing strategy of producers and sellers to identify the requirements of consumers [24].

Contemporary concepts of consumption converge with the postmodern paradigm. It assumes that consumption is not only a mundane tool for satisfying needs but is also a way of seeking exciting experiences and sensations. The ability of consumers to choose available goods and services from a wide palette remains very important. Apart from the possibility of satisfying needs, this choice allows for individual expression of one’s personality, developing hobbies, as well as realizing one’s dreams [25].

In the past, the image of the consumer shaped his activities and decision-making behavior in the area of purchase; the modern economic reality, dominated by new technologies based on the Internet, has been significantly modified. The availability of a variety of communication and transactional solutions and the multiplicity of commercial offers mean that consumers have full freedom of choice and determine the fate of companies [26].

Today’s consumers are not passive and submissive market subjects who consume what they are offered. They play the role of partners of companies in marketing activities, as well as product and service analyses. Consumers communicate with each other through various instant messengers and social media, acting as reflectors of consumers’ emotions [27]. They comment, give opinions, and exchange suggestions among themselves. In addition,

they share their insights with manufacturers. In other words, a continuous transfer of knowledge takes place between consumers and companies, which becomes the seed for the creation of innovations. It runs in two directions: from consumers to the company and from the company to the consumers [28].

Consumers should be considered as conscious market participants, as well as a source of knowledge transfer, which is a key determinant of innovation. In addition, consumers are becoming aware of the deficiency, which results from limiting the scope of their activity and marginalizing their role only to the purchase dimension. This forces modern producers to redefine their role. In addition, bidders have begun to notice the activities of buyers, their increasing activity, and preparation of marketing offer [29]. Today's consumer has evolved from passive recipient to co-creator of goods and services. He remains fully aware of his rights and position on the market. He has the opportunity to give his opinion on products and services and to exchange his suggestions, and he also becomes, in a way, the creator of innovative ideas [30].

The customer's expectations are rising, and he begins to demand personalized products, the final shape of which he can influence through collaboration with the provider. Consumption becomes interactive. It is possible to provide the manufacturer with information about the perception of the product, verifying the market offer and analyzing customers' experiences [31]. Therefore, it can be said that the consumer has become an external employee of the company, actively participating in the design and manufacture of individualized products and often innovations [32].

It should also be added that today's consumers are the generation of the Web, treating the Web as a place for creating goods and services. Technology is one of the key factors supporting customer value creation [33]. These buyers are endowed with a strong need for individualization, freedom, and choice, and they want offers targeting their demands and personalities. Therefore, we can examine customization of services [34].

2.2. Characteristics of the Market of Eco-Friendly Products

In the current economic reality, there is already growing consumer interest in natural products in most areas of everyday life [35,36], and the level of environmental awareness has become a global phenomenon [37,38]. The general belief that food choice can help mitigate environmental challenges is very strong [39,40].

A growing interest in sustainability has led enterprises to become green for a variety of reasons. Responsible behavior in the food sectors have now led consumers and producers to become more conscious of food values and lifestyle changes [41], which are reflected in food quality and safety [42,43]. Moreover, both consumers and producers have increased their interest in environmental protection [44] and want to preserve the depletion of the natural environment; however, the main reason is still financial [45].

Products from organic production are referred to as biological, biodynamic, or organic products [46,47], and organic products are increasingly being chosen by people who care about their health and also by those who care about the environment. Under the regulation of the European Parliament and the Council of the EU, an organic product is a product that comes from organic production. Organic production, in turn, is understood as production that has the best impact on the environment and climate, and has a high degree of biodiversity, taking into account animal welfare and production [48].

The market for organic products in Poland is still a niche market, despite its rapid development, especially in recent years. Poland is regarded as a country with an average level of development of the organic food market, but with huge potential and very dynamic growth [49] due to low air pollution and high biodiversity [50,51]. Additionally, in many regions of Poland, there are optimal environmental and economic conditions that allow for the development of organic farming, which would ensure the supply of raw materials for the production of processed products, as well as the supply of finished products [52].

Food undoubtedly accounts for the largest share of organic products, but organic products also include cleaning products, natural cosmetics, organic clothing (e.g., biodegradable pants), cosmetics, toys for children and babies, and even construction and interior design materials.

Despite fluctuating numbers of organic producers in Poland, there is an increasing demand for organic products among consumers [53–55]. The upward trend has been continuous for over twenty years. It is caused, among other things, by increasing consumer awareness and their orientation towards the quality of organic products. Various studies present different motives of consumers to buy organic food, such as taste, nutritional value, health, environment, and even farmers' welfare [56–60], but the quality of organic food is one of the main reasons for its advantage over conventional food [61]. Despite the development of the market for organic products, the development of organic agriculture is quite hindered by the low level of consumer income, the territorial dispersion of farms, and the low scale of production [62].

Organic products are not only food, but also cosmetics, household chemicals, and clothing. Ecological clothing is not only made of 100% ecological materials, such as organic cotton, linen, lyocell, but are also produced in accordance with appropriate standards [63].

3. Materials and Methods

The entire research process was divided into the stages of literature analysis and empirical research, which included preparing research questions, gathering data, statistical analysis and drawing conclusions. It was based on the use of a questionnaire sent to Polish adult e-consumers shopping for organic products chosen by means of purposive sampling (non-random sampling) [64,65]. At the beginning of the research, all the respondents were asked the filter question of if they purchase organic products online. Only an affirmative answer directed the respondent to the next part of the survey.

The minimum sample size calculated at the confidence level of $\alpha = 0.95$ and margin of error of 5% for the population of adult Poles on the basis of data provided on the official site [66] was defined as 385.

The sample size formula [67] was as follows:

$$n = z^2 \times p \times (1 - p) / e^2 \quad (1)$$

$$n \text{ (with finite population correction)} = [z^2 \times p \times (1 - p) / e^2] / [1 + (z^2 \times p \times (1 - p) / (e^2 \times N))] \quad (2)$$

where: n is the sample size, z is the z-score associated with a level of confidence, p is the sample proportion expressed as a decimal, e is the margin of error expressed as a decimal, and N is the population size.

The final number of respondents exceeded the assumed minimum sample size in order to make the sample more representative [68].

The survey was conducted in November 2021. During this period, a survey questionnaire was distributed to respondents following the standards of the CAWI technique. The research conducted in 2021 was the continuation of the research from 2020. The survey could not have been complemented by personal interviews because of the COVID-19 pandemic restrictions. The results of the questionnaires were processed using the SPSS Statistics program, for many years the most widely used program for quantitative data analysis in the social sciences. Thanks to SPSS Statistics, the data were analyzed in-depth, which allowed for statistically significant correlations between particular groups of respondents, as well as for verification of the hypotheses that were formulated.

The research problem in this paper is to analyze the purchasing behavior of Polish young e-consumers of organic products and to assess the importance of factors potentially influencing their beliefs and purchase decisions. Research findings from around the world indicate that the perception of health attributes of organic products is one of the most significant purchase intentions and choices in both developed and developing countries [69–71]. Specifying the adopted research problem, the following questions were posed about the purchase behavior of young consumers in the area of organic products, in particular:

- What are the most common buying behaviors among young e-consumers of organic products, and what are the main determinants?
- What opinions do young e-consumers hold when making purchasing decisions?
- Do e-consumers share opinions and suggest changes to the organic products offered?

These questions seem to be extremely relevant due to the increasing role of the social and environmental aspects in modern management concepts (Environmental Corporate Social Responsibility-ECSR) [72,73].

In order to answer the research questions posed in this way, it is necessary to use a lower level of specificity and define the research hypotheses in a declarative manner:

Hypothesis 1 (H1). *Young consumers are willing to purchase organic products via the Internet.*

Hypothesis 2 (H2). *There should be a balance between technical attributes, market attributes, and feedback from other consumers.*

Hypothesis 3 (H3). *Feedback and feedback interaction from buyers is expected after the transaction.*

The necessity of sustainable development of a business compels companies take this aspect into account in their strategies and directions of further development, and the awareness of the issue among young consumers is growing. Thus, solving the adopted research problem may give valuable practical indications for the managers of modern companies.

For the purpose of the research, a one-factor variance analysis was used as a method to verify the hypotheses. The null hypothesis with equal average values for the general population was verified by the F-test (Fisher-Snedecor). The application of this test was possible as the calculated indices could be considered as continuous variables with distributions close to normality (at the materiality level $\alpha = 0.05$) based on the results of the Kolomogorov–Smirnov test. To verify the reliability of the questions concerning the surveyed companies, the Alpha Cronbach test was carried out, which made it possible to determine the variables with statistically significant correlations.

The socio-demographic characteristics of respondents is presented in Table 1.

The questions and statements selected for the questionnaire reflected the phrases most frequently repeated during the interviews conducted in the 2020 pilot study and were worded to be unambiguous to respondents. The 5-grade Likert scale was applied to rank statements; depending on the statement, 1 indicated definitely no and 5-definitely yes, or 1 indicated never and 5-always. Interpretation of the Likert scale provides numerical information and tells us which responses in each group of respondents were selected most frequently. The respondent selects the statement that most closely matches his/her feelings. The number of possible choices should be odd (usually 5) so that the middle statement is neutral.

Table 1. Socio-demographic characteristics of respondents.

		Variables	Frequency	Percentage <i>n</i> = 620
1	Gender	Male	258	41.6
		Female	362	58.4
		Total	620	100
2	Age	20 and younger	172	27.7
		21–25	284	45.8
		26–30	64	10.3
		31–35	39	6.3
		36–40	61	9.8
		Total	620	100
3	Place of residence	Rural area	112	18.1
		Town up to 20 thousand inhabitants	50	8.1
		City of 21–50 thousand inhabitants	77	12.4
		City of 51–200 thousand inhabitants	42	6.8
		City over 200 thousand inhabitants	339	54.7
		Total	620	100
4	Employment status	Non-active	110	17.7
		Full-time employment	276	44.5
		Contract employment	187	30.2
		Sole proprietor	44	7.1
		Farmstead	3	0.5
		Total	620	100
5	Subjectively perceived material situation	Very good	62	10.0
		Good	334	53.9
		Average	199	32.1
		Bad	15	2.4
		Total	620	100

4. Results and Discussion

During the study, different types of buying behaviors attributable to young e-consumers in the organic market were verified. It was important to ask about the frequency of online purchases. 12% of respondents engage in this type of shopping every day or a few times a week, 48% make online purchases a few times a month but not more often than once a week, while for 39%, the frequency is a few times a year but not more often than once a month.

The matter to be verified was to determine the aspects that are important to the consumer when making purchases (see Table 2). Responses could be given on a 5-point Likert scale, where 1 meant definitely not important, and 5 meant definitely important. The quality of the product and service is very important. It is followed by the price and the possibility of obtaining information about the product. It turns out that a significant number of consumers take into account the opinions of other Internet users when making purchases.

Table 2. Key aspects when shopping online.

Likert Scale	%					Total
	1	2	3	4	5	
Price	2.7	2.7	1.9	34.0	58.5	100
UX friendly	3.9	6.0	41.6	35.3	13.2	100
Quality of a product/service	1.8	1.3	1.8	27.7	67.4	100
Time of delivery	2.7	9.5	7.7	46.0	34.0	100
Guarantee	2.6	11.9	11.8	41.0	32.7	100
Information about the product	2.1	2.7	5.5	39.5	50.2	100
Form of payment	5.0	10.8	8.1	33.4	42.7	100
Opinions of other Internet users	3.9	6.6	9.0	45.6	34.8	100
After-sale services	5.2	14.4	26.5	35.0	19.0	100
Organic origin of products	11.5	18.9	25.8	30.6	13.2	100

An important part of the research was the finding that a huge proportion of respondents are interested in consuming food products free of pesticides and fertilizers, medicines not subject to genetic modification, and products grown in harmony with nature to which a total of 432 individuals provided affirmative responses ($n = 211$ at level 4, while $n = 221$ at level 5). A total of 62 people gave negative responses ($n = 25$ at level 1, $n = 37$ at level 2). Thus, for many respondents, environmental aspects remain important when purchasing products online (334 respondents stated that ecological aspects are important for them at different levels, 145 people do not consider them important).

Before buying an organic product, customers like to look for information about it. Most often they carefully read the product labels. It is also not uncommon to browse through online stores and nutrition portals. Detailed information is presented in Table 3.

Table 3. Source of information on organic products.

	<i>n</i>	%
Nutrition portals	195	15.5
Websites of organic food producers	131	10.4
Websites of online stores	198	15.7
Experts in the field	130	10.3
Family and friends	147	11.6
Product labels	379	30.1
Other	81	6.4

The most common place to purchase eco-products is a stand in a supermarket, but to a large extent, customers purchase organic products from an online store. The exact distribution of responses is shown in Table 4.

Table 4. Places to buy organic products.

	<i>n</i>	%
Organic Farm	178	15.1
Agricultural and food fairs	187	15.8
Markets and occasional fairs	74	6.3
Specialized stores with healthy food	213	18.0
Supermarket stand	321	27.2
Online store	208	17.6

Another issue was the specification of technological attributes that guide the consumer in choosing organic food. It turns out that natural taste and a low level of processing are of great importance (Table 5).

Table 5. Essential technological attributes in choosing organic food.

	<i>n</i>	%
Preservative-free products	425	23.3
Low level of processing	274	15.0
Natural flavor	334	18.3
Natural appearance	259	14.2
Manufactured without chemical fertilizers	169	9.3
No pesticides	117	6.4
The animals are fed with natural feed (no hormones or antibiotics added)	247	13.5

In terms of market attributes when choosing foods, consumers value health benefits the most, as well as their availability in hypermarkets and supermarkets (see Table 6).

Table 6. Important market attributes when choosing organic food.

	<i>n</i>	%
Less durability	109	6.5
Production in a clean environment	200	11.9
Health benefits	351	20.8
Pollution-free production	163	9.7
Availability in hypermarkets and supermarkets	307	18.2
Wide range	201	11.9
High price	71	4.2
Producer's logo on packaging	172	10.2
Convenient preparation	112	6.6

Among organic products, consumers most often choose healthy food, followed by natural cosmetics and beverages (Table 7).

Table 7. The most popular organic products.

	<i>n</i>	%
Healthy Food	471	28.5
Gluten-free foods	103	6.2
Ketogenic diet products	37	2.2
Beverages	222	13.4
Dietary supplements	152	9.2
Organic cleaning products	106	6.4
Natural cosmetics	268	16.2
Products for health and beauty	196	11.9
Products for moms and kids	35	2.1
Other	61	3.7

19% of respondents ($n = 117$) expect a personalized offer and only 13% ($n = 82$) share their opinions about organic products with other consumers online. An even smaller proportion of respondents ($n = 38.6\%$) share their opinions about organic products with the producer after purchasing them. Only a few ($n = 43.7\%$) suggested to the producer that they make changes to the organic products they offer.

Structural equation modeling (SEM) is a multivariate quantitative technique combining aspect of factor analysis and multiple regression employed to describe the relationships among observed variables [74,75]. SEM was estimated using the maximum likelihood method. It involves examining in a purely hypothetical model the relationships between variables, both measured and latent, that is, variables that are not directly observable [76]. There was no basis to reject the null hypothesis that the residual values of the empirical and theoretical matrices are equal to zero ($\chi^2 = 445.4$; $p = 0.001$). The root mean square error of approximation, RMSEA value = 0.088, indicates that the model is a good fit to the data. To determine the reliability of the data, the value of Cronbach's alpha coefficient was determined to be 0.704.

To verify the hypotheses, H1, H2, and H3, an analytical-deductive process was carried out, which required first listing the observable and unobservable endogenous variables. The structural model estimated by the maximum likelihood method (Figure 1) includes the following:

- Observable endogenous variables: 2-age; 9_1-price; 9_2-UX friendly; 9_3-quality of a product/service; 9_4-delivery time; 9_5-guarantee; 9_6-product information; 9_7-payment form; 9_8-opinions of other Internet users; 9_9-after-sales service; 9_10-organic origin of products; 10-desire to consume foods that have not been produced using pesticides, fertilizers, or drugs; 11-the extent to which environmental aspects are important when purchasing; 14-size of the pool of money spent on green purchases per month.
- Unobservable endogenous variables: Y-buying behavior.
- Model measurement errors: e1, e2, e3, e4, e5, e6, e7, e8, e9, e10, e11, e12, e13, e14, e15.
- The random component of the structural model: e16.

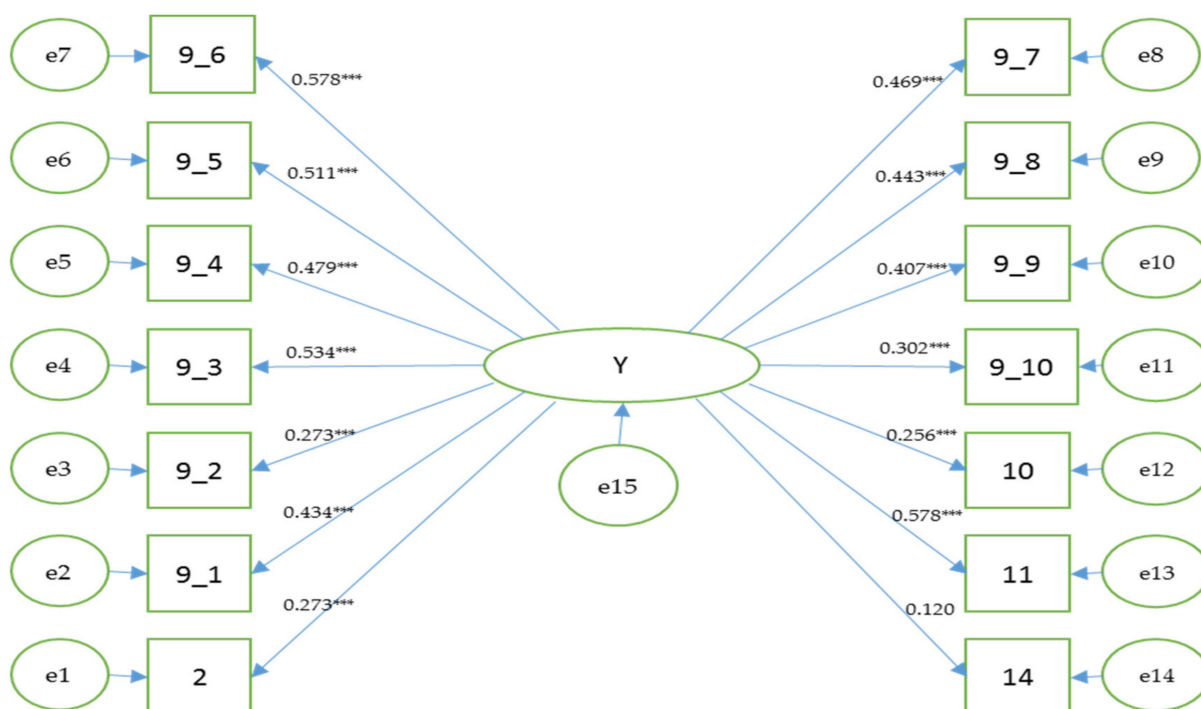


Figure 1. Estimated structural model. Source: own. Note: *** means $p < 0.001$.

Further in the process of analyzing the results, the non-standardized and standardized coefficients of the model were counted (Tables 8 and 9).

Table 8. Non-standardized model coefficients (in accordance with the assumptions of confirmatory factor analysis, a constant value was assumed for parameter 2, and it was not estimated).

Variables	Estimated Parameter Value	Error of Esteem	Critical Value	p Value
2	1	-	-	-
9_1	1.059	0.198	5.347	***
9_2	1.263	0.29	4.36	***
9_3	1.196	0.211	5.667	***
9_4	1.557	0.283	5.511	***
9_5	1.870	0.333	5.607	***
9_6	1.716	0.298	5.768	***
9_7	1.654	0.302	5.477	***
9_8	1.518	0.282	5.384	***
9_9	1.763	0.337	5.233	***
9_10	1.239	0.269	4.602	***
10	1.123	0.267	4.212	***
11	0.902	0.227	3.977	***
14	0.320	0.134	2.395	0.017

Note: *** means $p < 0.001$.

The non-standardized coefficients of the model tell how many units the value of the explanatory variable will change when the value of a given explanatory variable increases by a unit. Standardized coefficients, on the other hand, describe by how many standard deviations the value of the explained variable will change when the value of the explanatory variable increases by one standard deviation [77,78].

Table 9. Standardized model coefficients.

Variables	Estimated Parameter Value
2	0.284
9_1	0.434
9_2	0.273
9_3	0.534
9_4	0.479
9_5	0.511
9_6	0.578
9_7	0.469
9_8	0.443
9_9	0.407
9_10	0.302
10	0.256
11	0.233
14	0.120

The above interpretations are valid only if the values of other variables remain unchanged. The coefficient values thus describe the direction (positive/negative) and strength of the influence on the explanatory variable. The strength of influence on the explained variable can be compared between explanatory variables by means of standardized coefficients. This is because the values of non-standardized coefficients depend on the units in which the variables are measured [79–82].

One of the methods to quantify the relationship between variables is to use the Pearson correlation coefficient, which is a measure of the linear relationship between the variables. The value of this coefficient is defined between -1 and 1 . Table 10 shows the strength of the correlation between the variables, where: -1 means a perfectly negative linear correlation between two variables; 0 means no linear correlation between the two variables; and 1 means a perfectly positive linear correlation between the two variables. The further the

correlation coefficient is away from zero, the stronger the measured relationship between the two variables.

Table 10. Correlation table of variables.

	9_1	9_2	9_3	9_4	9_5	9_6	9_7	9_8	9_9	9_10	10	11
9_1	1											
9_2	0.047401	1										
9_3	0.986798	−0.02	1									
9_4	0.832084	0.353112	0.734436	1								
9_5	0.835415	0.403528	0.745605	0.992772	1							
9_6	0.981181	0.195181	0.940134	0.918024	0.919483	1						
9_7	0.981548	0.139464	0.944465	0.911933	0.919599	0.991967	1					
9_8	0.84719	0.382496	0.753352	0.995775	0.987164	0.9321	0.915825	1				
9_9	0.352535	0.877592	0.250163	0.710305	0.7531	0.507857	0.487102	0.710968	1			
9_10	−0.05949	0.860338	−0.17797	0.436144	0.469175	0.121798	0.104243	0.422338	0.904068	1		
10	0.859858	0.549752	0.811381	0.887184	0.915949	0.922095	0.896629	0.912171	0.753672	0.404333	1	
11	0.041991	0.750065	−0.09029	0.554235	0.578123	0.221117	0.219618	0.526606	0.898657	0.975154	0.437752	1

In light of the statistical analyses performed, it can be assumed that the posited H1 has been partially confirmed. Young consumers are willing to buy organic products via the Internet, taking into account only some selection criteria. Based on the standardized coefficients of the model, it was found that the variable, Y-purchasing behavior, is most strongly influenced by the variables, 9_6-product information, 9_3-service/product quality, and 9_5-warranty.

The statistical analyses conducted showed that all variables, except 14-the size of the pool of money spent on green purchases per month, are statistically significant, that is, the influence on variable Y (shopping behavior), except for the mentioned variable 14, is statistically significant, $p < 0.001$. In turn, the least influence on shopping behavior is exerted by variable 10-willingness to consume food products in which no pesticides, fertilizers and drugs were used in the production.

Therefore, it can be concluded that purchasing behavior is mainly determined by three types of factors. The first is product information drawn from a variety of sources, such as nutrition portals, organic food producer websites, online store websites, experts and professionals in the field, family and friends, and product labels. Another factor is the quality of the product and service, including issues such as the ability to purchase products without preservatives, low level of processing, natural taste and appearance, products produced without artificial fertilizers, pesticides, added hormones, and antibiotics, produced in a clean environment, and guaranteeing health benefits. The third important factor is the guarantee, which includes the right to lodge a complaint. Therefore, H2 posed in the discussion can be considered confirmed, with product information, quality, and warranty factors having the greatest influence on this balance. Thus, placing emphasis on the listed groups of factors by producers will allow purchasing activities to intensify among young e-consumers, as well as contribute to the harmonious functioning of the sustainable consumption market.

The final element of the discussion is H3, which assumed that following the fashion and communication trends among young consumers, they would be very active in building interactions and feedback. Meanwhile, in question 19 of the survey, only 282 out of 620 respondents (45%) indicated that they shop for organic products online. Based on further questions, 22, 23, 24, and 25, out of these 282 people, only 41% expect to be offered personalized organic products, only 29% share their opinion about organic products online with other organic consumers after purchase, and only 15% have ever suggested to the manufacturer to make changes to the organic products they offer.

Thus, it can be assumed that the H3 posed in the study has not been confirmed because at this level of after-sales activity, it is difficult to discuss a significant way of building a relationship or loyalty with the potential customer of the younger generation for organic

products. This is an important conclusion for sellers of organic products in the studied group of respondents.

5. Conclusions

The presented statistical correlations highlight the significant correlations of purchasing behaviors of young e-consumers and the strength of their influence. Thus, it is possible to set universal purchasing trends, taking into account that the purchasing behavior of young e-consumers is mainly influenced by product information and product and service quality and warranty. Quite surprising is the fact that willingness to consume food products produced without pesticides, fertilizers, and drugs was the least important to young e-consumers.

The findings of this study suggest several important recommendations that may be of interest to managers of green e-markets to attract producers and increase e-consumer demand for organic products.

Most importantly, the results confirm the relationship between e-marketplace purchase willingness and e-consumer attitudes. The importance of focusing on online information about fair trade and environmental and health benefits when attracting consumers to green e-markets has been revealed. This has become a major way to differentiate these buy-sell platforms from traditional competitors. The traditional organic market needs to be adapted to online contacts through electronic communication tools. The quality of service in this case requires that product attributes are designed in such a way to facilitate the online transaction [56]. Offline and online shopping induce consumers to behave differently due to the lack of physical contact with the product [83]. When making an offline purchase, reliable information comes from personal sensory examination, whereas online shopping is influenced by the customer's purchase intention in addition to social influence or knowledge and curiosity [84]. To overcome the barrier of not being able to view products before purchasing them [85], good trust in shopping requires high quality online services [86,87] and professional online platforms [88]. Improved trust when shopping online occurs when full information about product attributes is available, and for this reason, care should be taken with this aspect of online sales.

It should also be taken into account that young e-consumers make purchases with reference to current trends and fashion and that they are usually affected by their environment [89]. The marketing messages directed to them by producers and marketers may therefore include aspects of both belonging to a group and following trends created by an authority—a trendsetter or influencer. The social aspect of consumer decisions is an extremely important element, especially among young people, who on the one hand desire the feeling of uniqueness and individuality but on the other hand strongly desire to be part of a larger community [90].

Another aspect that may be intriguing for retailers is to try to combine the environmental and health messages associated with their products to leverage the positive effect of consumer attitudes about both topics. Even though certain factors have been shown to influence the willingness to purchase separately, actual purchasing behavior is often influenced by a combination of variables that cannot be easily clarified. Therefore, it would be prudent for vendors to try to track their efforts to increase e-sales of organic food by encouraging e-customers to participate in loyalty programs and by carefully analyzing the data of customers already participating in these programs.

However, offerors are not the only group that can benefit from the results of the research. Based on the study's findings and the factors identified as mattering most in organic product choices, key players such as socio-environmental organizations and organic product marketers need to redefine their operations, aligning them with the needs of organic product e-consumers. In the long run, this can result in the development of local markets for organic products and influence sustainable development in Poland.

The results of the conducted study can also enrich the literature in terms of understanding consumer behavior in the "green market".

The research described in this article does not fully exhaust the questions related to the online behavior of young consumers on the organic market. The main limitation of this study is associated with both a convenient sample and a finite geographic area. The survey was conducted only among e-consumers and it would be interesting to compare on what basis consumers make purchase decisions in stationary shops. Additionally, the study took place during the coronavirus pandemic, so the study authors did not have the opportunity to meet the respondents in person and conduct a more detailed interview, which can certainly be considered an important limitation of this study. Further qualitative research and analysis would be valuable to uncover the hidden, non-parametric motives for organic purchasing behavior.

It would also be interesting to perform a similar scientific study conducted among respondents from abroad to compare domestic and foreign surveys.

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