

“Identifying the system of value factors of green consumer choice”

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IDENTIFYING THE SYSTEM OF VALUE FACTORS OF GREEN CONSUMER CHOICE

Abstract

To justify the production of green products, it is necessary to anticipate the choice of consumers toward products with different environmental friendliness. Therefore, it is necessary to understand the factors that determine this choice, particularly value factors. The study is based on the idea that a consumer is stimulated to eco-consumption by a set of values, not excluding individualist values; and the influence of values is mediated by motives. The purpose of the study is to develop the theoretical foundations of constructing a three-level system of value factors of green consumption on the example of office paper consumption. As a result, the study formed a system of factors containing preferences, motives, and values of office paper consumers. According to the proposed approach, for each respondent, quantitative characteristics of the elements of the system of factors were determined through a survey, which made it possible to identify correlation relationships between the elements. A pilot study was used to test the proposed approach to constructing a value factors system. The results of the pilot survey showed a positive connection between eco-friendliness of consumer preferences – through motives – with such values as “Nature,” “Self-development,” “Country success,” and “Social power.” This finding provides additional justification for the assumption that individuals are driven to green consumption not only by socially oriented values but also by individualistic values. Identifying the value factors of green consumption will allow predicting consumer behavior and influencing it through targeted marketing offers.

Keywords

green consumption, consumer choice, factors of behavior, motives, Schwartz's theory of values, questionnaire, correlation analysis

JEL Classification

C15, M31

INTRODUCTION

Environmental requirements are a component of modern requirements for the activities of enterprises. At the same time, the ability of businesses to fulfill these requirements to some extent depends on the buyers. Buyers may support or not support environmental activities of enterprises with their consumer choices. They may or may not buy an eco-friendly product. Therefore, the planning of ecological activities at the enterprise should be based on forecasting the reaction of consumers.

There is a need for information about the factors of consumer choice over a set of products with given characteristics to justify the production and sale of green products. Knowing the factors will make it possible to understand why some buyers are ready to consider the environmental criterion, sometimes seemingly to the detriment of their own interests. In contrast, some of them are not ready to do this at all. Information about the factors of green consumer choice will help not only to predict consumer behavior, but also to influence it through targeted marketing offers.

Currently, the theoretical foundations for the study of green consumption factors are not yet sufficiently developed: a rather limited number of factors are considered; most of the factors considered are too aggregated and unspecific; the features of concrete green goods are often not taken into account. As a result, the theoretical foundations for the study of green consumption factors need to be improved.

1. THEORETICAL BASIS

Researchers distinguish the following main groups of factors of human behavior, in particular consumption: demographic, geographic, socio-economic, psychographic, and behavioral. All these groups have already been repeatedly analyzed concerning their influence on the green behavior of individuals, in particular on green consumption.

Van Liere and Dunlap (1980) and Jones and Dunlap (1992) considered geographical and demographic factors of green behavior. SGuin et al. (1998) and Straughan and Roberts (1999) outlined that the relationships between green behavior and demographic variables are mostly moderate or weak, and this fact leads to limited use of demographic variables as predictors of environmental concern. Van Liere and Dunlap (1980), Jones and Dunlap (1992), Mohai (1985), Walsh and Warland (1983), and Hamm et al. (2012) researched socio-economic factors of green behavior; these studies obtained different results regarding the influence of these factors for different types of green behavior. Guagnano et al. (1995) analyzed behavioral factors; it was confirmed that the complexity, cost, or inconvenience of green behavior leads to a low frequency of its implementation. SGuin et al. (1998) and Potrashkova et al. (2018) investigated the influence of awareness on socially responsible behavior.

Researchers pay the most attention to psychographic factors of responsible and green behavior of consumers. This group of factors is distinguished by its diversity. Walsh and Warland (1983) examined political ideology as a predictor of green behavior. It was found that environmental activists have a liberal ideology. Khan and Abbas (2023) and Zaikauskaitė et al. (2020) examined characteristics idealism and relativism described of Forsyth (1980) in terms of their impact on green behavior and found out that the level of idealism was a predictor of ethical consumption and environmental behavior. Mohai (1985) and Guagnano (1995)

confirmed that environmental activists have an internal locus of control. The level of autonomy of motivation suggested in the theory of self-determination (Deci & Ryan, 1985, 1987) was widely examined (SGuin et al., 1998; Pelletier et al., 1998; Green-Demers et al., 1997). It was confirmed that a higher level of autonomy of motivation leads to more active green behavior. Researching orientation toward social dominance, Pratto et al. (1994) showed that people with a strong social dominance orientation do not support fair trade as feebly compatible with their concept of social justice (Rios et al., 2015). Sadiq et al. (2021), Tandon et al. (2021), and Kushwah et al. (2019) examined barriers to the adoption of innovative eco-products. These articles obtained different results for different product groups. Factors suggested by the theory of planned behavior (Ajzen, 1991; Fishbein & Ajzen, 1975) have been analyzed repeatedly. Attitude is the strongest predictor of the intention to be engaged in socially responsible behavior, in particular, to buy environmentally friendly products (Paul et al., 2016), to support socially responsible restaurants (Naatu et al., 2022), and to participate in environmental activities (Fielding et al., 2008). Nevertheless, according to Tapsoba et al. (2022), the influence of attitude on the willingness of consumers to buy agroecological tomatoes turned out to be statistically insignificant.

De Aragão and Alfinito (2021), Karp (1996), Caracciolo et al. (2016), and Sonoda et al. (2018) aimed to analyze individual values and found that individuals' values are predictors of their green behavior. The most popular classification of values used in the analysis of the causes of human actions is Shwartz's classification (Schwartz & Bilsky, 1987; Schwartz, 1992). Statistical analysis by de Aragão and Alfinito (2021), Karp (1996), Caracciolo et al. (2016), and Sonoda et al. (2018) showed that responsible and green consumption is positively influenced by values with a high level of self-transcendence and openness to change. In comparison, values with a high level of desire for conservation and self-enhancement have a negative impact.

The literature review showed that many determinants of green behavior and eco-consumption have already been identified and studied. However, mainly, the determinants of a person's general propensity to green behavior were considered rather than the factors of green choice over a specific set of given goods. The existing literature offers valuable results, but they contribute little to the forecasting of demand for green products. At the same time, studies that examined specific types of goods demonstrated that the influence of factors significantly depends on the group of products analyzed. Therefore, it is advisable to conduct further research taking into account specific types of green products.

The methods of analysis of geographical, demographic and socio-economic factors are sufficiently developed and only require their adaptation to the task of researching the green consumption of specific groups of goods. Regarding psychological factors, Hamm et al. (2012) showed that studies do not satisfy the need for the analysis of complex structures of the consciousness of individuals, compromises of values, and deep psychological factors. The analysis of works devoted to the study of value factors of green behavior shows the following.

First, the study of values as factors of the green behavior of consumers remains relevant. On the one hand, previous research has confirmed the influence of values on responsible consumption. On the other hand, a complete system of interrelationships between individual values and responsible consumption has to be discovered.

Second, considered studies on the impact of values mostly came down to the analysis of basic value con-

structs (meta-values) of the highest level of abstraction, which are "Conservation," "Self-enhancement," "Self-transcendence," and "Openness to change" (Table 1).

Third, individual values, by definition, are very abstract categories. Therefore, it is difficult for respondents to assess their attitude to values. Moreover, values influence the behavior of individuals through the mediating role of psychological attitudes (Homer & Kahle, 1988). Both of these facts were insufficiently taken into account in the previous research. When analyzing the factors of consumer behavior, it is advisable to consider values together with more specific psychological attitudes such as preferences and motives.

Thus, a promising direction of research is the analysis of the system of value factors of consumers' green choice over a given set of goods. Some of the identified limitations can be eliminated by constructing a hierarchical (three-level) system of value factors of green choice. Its elements should be not only characteristics of consumer values, but also their motives and preferences for a given set of goods.

The theoretical basis for building a three-level system of factors of environmental consumption is the concept of "values – attitude – behavior" (VAB), according to which the influence of values on the behavior of individuals is mediated by intermediate psychological attitudes (Homer & Kahle, 1988). This study considers consumer motives as intermediate psychological attitudes that influence consumer preferences, which in turn affect consumer behavior. Therefore, the paper

Table 1. List of meta-values and type of values

Source: Schwartz (1992).

Meta-values	Types of values
Self-transcendence	Universalism
	Benevolence
Openness to change	Self-direction
	Stimulation
	Hedonism
Self-enhancement	Power
	Hedonism
	Achievement
Conservation	Conformity
	Security
	Tradition

views three levels of personal factors that determine the behavior of each consumer in terms of environmental responsibility:

- 1) consumer preference for a set of similar products that differ in price, quality, and eco-friendliness;
- 2) motives affecting consumer preferences;
- 3) values, which are the bases of motives and preferences.

Based on the above, the purpose of the study is to develop the theoretical foundations of constructing a three-level system of value factors of green consumption on the example of office paper consumption using the questionnaire method.

2. RESULTS

In accordance with the given assumptions regarding the three-level system of value factors of green consumption, the paper determined the content of three stages of the survey for the study of green choice factors on the example of office paper consumption. Each of the three parts of the developed questionnaire corresponds to each stage of the survey.

2.1. Survey stages

2.1.1. Stage 1. Analysis of consumer preferences for a set of similar products that differ in price, quality, and eco-friendliness

Based on the content of the first (upper) level of the system of value factors, at the first stage of the survey, respondents are given the task of ranking office paper options that differ in price, quality, and eco-friendliness by degree of preference.

According to the level of quality, office paper of A4 format with a density of 80 g/m² is divided into three classes: class A – paper of the highest quality; class B – medium quality paper; and class C – paper of minimum acceptable quality.

According to the level of eco-friendliness, it was decided to distinguish only two types of paper: “paper with ordinary eco-friendliness” and “paper with increased eco-friendliness” (this approach simplifies the ranking task set for the respondents). The term “paper with ordinary eco-friendliness” in this study means virgin paper that does not have a responsible forest management certificate. The term “paper with increased eco-friendliness” in this study means either recycled paper or virgin paper that has a certificate of responsible forest management (and in any case, is bleached without chlorine).

Taking into account the current price level, the study created a description of six conditional options for office paper, which are offered to respondents for ranking (Table 2).

The processing of respondents’ answers to question 1 of the questionnaire aims to compare respondents’ preferences regarding ecological and ordinary paper. For this, the following statistical assumptions are tested:

1. Assumption about a significant difference in the rank evaluations of the paper within pairs A and A-Eco, B and B-Eco, and C and C-Eco.
2. Assumption about a significant difference in the rank evaluations of ecological and non-ecological paper.

To perform this task, the calculated “Sum of ranks of ecological paper” and “Sum of ranks of non-ecological paper” variables are introduced.

Table 2. Description of office paper options offered to respondents for ranking

Paper options	Marking	Characteristics		
		Quality	Eco-friendliness	Price, UAH
Class C paper	C	minimally acceptable	ordinary	130
Class C eco-paper	C-Eco	minimally acceptable	increased	140
Class B paper	B	average	ordinary	150
Class B eco-paper	B-Eco	average	increased	155
Class A paper	A	high	ordinary	160
Class A eco-paper	A-Eco	high	increased	170

2.1.2. Stage 2. Analysis of motives influencing consumer preferences in terms of eco-friendliness

Based on the content of the second level of the system of value factors, at the second stage of the survey, respondents are given a list of possible motives and are asked to assess the degree of influence of each of the motives on their consumer decisions. This paper considers motives as aspirations and settings that act as reasons for consumer choice. Motives can be divided into two groups: facilitating and hindering.

To form the second part of the questionnaire, a list of motives that could hypothetically influence consumer preferences in terms of responsible consumption was developed. Each motive was associated with a certain individual value. This study analyzed the motives and values that encourage consumers to take into account the interests of society. Motives and values directly related to satisfying the buyer's personal interests regarding his own health and safety and that of his loved ones were not considered (these motives are already clear). Therefore, purchasing office paper was chosen as the case study: buying non-eco-friendly paper does not harm the immediate buyer or their close ones, but it does harm the environment. The question is, what motives encourage buyers to take into account the environmental interests of society when purchasing office paper?

To determine the list of supposed motives, the study formed a set of values that can affect human behavior in terms of responsible consumption. The set of values type included seven motivational types of values from Schwartz's theory of basic human values (Schwartz, 1992) (Table 1). Three of Schwartz's types of values are left out of consideration. The values "Benevolence within a close group" and "Security" are omitted since this study examines the motives that encourage people to take into account the interests of society and not the personal interests of self-preservation or the interests of a close group. The value of "Tradition" is absent since responsible consumption cannot yet be attributed to traditional standards of behavior in most countries.

Further, using Schwartz's questionnaire (Schwartz, 1992), more specific values were formulated in ac-

cordance with each type of value. They are considered components of the third (basic) level of factors of responsible consumer choice: "Nature (protection of the environment);" "Interests of other people and social justice;" "Wealth;" "Social power;" "Social recognition;" "Social order, obedience, compliance with rules;" "Freedom;" "Pleasure and comfort;" "Entertainment and novelty;" "Knowledge, skills, abilities;" "Country success;" and "Self-development" (some wording of the name of values was adjusted for better understanding by Ukrainian respondents).

Further, in accordance with the values, the paper formulated the internal motives of responsible consumption (Table 3).

The processing of the respondents' answers to the questions of part 2 of the questionnaire aimed to identify the motives that have the greatest differentiating power in relation to the green choice of consumers over the set of options for goods specified in part 1 of the questionnaire. For this purpose, the study introduced the calculated variable of "Eco-friendliness of paper choice," which is calculated for each respondent as the difference between the sum of the ranks given by this respondent for green options of paper and the sum of the ranks given by him/her for non-ecological options. The study of the influence of various motives on the "Eco-friendliness of paper choice" value uses correlation analysis. Thus, the strength of the influence of each motive on the eco-friendliness of the choice is characterized by the corresponding correlation coefficients.

2.1.3. Stage 3. Analysis of values that are bases of motives and preferences

Considering the content of the third (basic) level of the value factors system, at the third stage of the survey, each respondent is given the list of values (Table 2) and is given the task of evaluating the degree of importance of each of them.

The processing of respondents' answers to questions of part 3 of the questionnaire aimed to identify relationships between the values and motives of the respondents using correlation analysis. As a result, based on the data processing of all three

Table 3. List of possible motives for responsible behavior of consumers

Motives	Marking	Appropriate values
There is no desire to pay more for green products	DM1	Wealth
There is no desire to think about issues of ecology and responsible consumption and to waste time on it	DM2	Pleasure and comfort
I believe that producers, not consumers, should deal with environmental issues	DM3	Social order, obedience, compliance with rules
I feel like I am forced to be engaged in responsible consumption, so I do not want to	DM4	Freedom
Responsible consumption is not interesting	DM5	Entertainment and novelty
Responsible consumption sucks, it is for nerds	DM6	Social recognition
I support smart consumption, rejection of unnecessary purchases	M1	Self-development
I am concerned about the state of nature	M2	Nature
I would like to practice responsible consumption as these are new goals for my self-development	M3	Self-development
I would like to support domestic manufacturers who act in an environmentally and socially responsible manner, as this behavior will contribute to their success on the European and global market	M4	Country success
I am interested in understanding the issues of responsible consumption, this is new knowledge	M5	Knowledge, skills, abilities
Through responsible consumption, I can realize my influence on producers and the state of the environment	M6	Social power
I believe that responsible consumption is the duty of every citizen, it is a mandatory rule for everyone	M7	Social order, obedience, compliance with rules
I want to do something useful for people, for society, to solve social problems	M8	Interests of other people and social justice
I want to support businesses that provide assistance to vulnerable population groups	M9	Interests of other people and social justice
I want to support domestic producers for the prosperity of our country	M10	Country success
It is interesting to be engaged in responsible consumption, for me it is a new quest, a new entertainment	M11	Entertainment and novelty
I believe that responsible consumption is something for what I will be respected	M12	Social recognition
I would like to practice responsible consumption because it is a trend now	M13	Social recognition

parts of the survey, a system of value factors for the green choice of office paper will be formed, the elements of which are eco-friendliness of paper choice, motives, and values interconnected by chains of correlation.

2.2. Pilot survey

To test the quality of the proposed developments and the created questionnaire, a pilot survey of a “convenient” sample of respondents among students of Simon Kuznets Kharkiv National University of Economics, Ukraine, was carried out. The survey was conducted in December 2021, that is, two months before the Russian invasion of Ukraine. Thirty-seven people filled out the online questionnaire. The task of the pilot study was to identify the shortcomings of the formulated questionnaire for further clarification of the questions and correction of the lists of values and motives analyzed in the study.

2.2.1. Part 1. Analysis of consumer preferences for a set of similar products that differ in price, quality, and eco-friendliness

According to part 1 of the developed questionnaire, the respondents were asked to rank the paper options listed in Table 1 in order of their preference. The average ranks for each version of the paper are shown in Table 4.

Table 4. Average rank values for office paper options, which differ in quality, price, and eco-friendliness

Paper option	Average rank	Final place by the degree of preference
C	4.84	6
C-Eco	3.49	5
B	3.19	3
B-Eco	2.30	1
A	3.38	4
A-Eco	2.97	2

Since in each class of paper the average ranks for the options “ecological paper” and “non-ecological paper” differ quite a lot, three assumptions were formulated about the significant difference between the rank ratings of paper within the pairs A and A-Eco, B and B-Eco, and C and C-Eco. Calculations using the Wilcoxon test showed that the difference between the rank scores of non-ecological and ecological paper is significant for class C (one-sided p -value is $9.6596e-8$) and class B (one-sided p -value is 0.002). For class A, the corresponding assumption was not confirmed (one-sided p -value is 0.095).

In accordance with the above-mentioned theoretical foundations, for the general analysis of respondents' preferences regarding ecological paper, the calculated variables of “Sum of ranks of ecological paper” and “Sum of ranks of non-ecological paper” were introduced. The average sum of the ranks of the non-ecological paper turned out to be 11.41 ; the average sum of the ranks of the ecological paper is 8.76 . That is, respondents rated ecological paper slightly higher than ordinary paper. Calculation of the Wilcoxon test for this pair of dependent random variables confirmed the assumption of their difference (one-sided p -value is 0.0003). Thus, according to the results of processing part 1 of the pilot questionnaire, respondents rated ecological paper significantly higher than ordinary paper.

2.2.2. Part 2. Analysis of motives influencing consumer preferences in terms of eco-friendliness

According to part 2 of the questionnaire, respondents were asked to evaluate the degree of influence of the analyzed motives (Tables 3 and 4) on their decisions regarding responsible consumption. The impact of each motive was evaluated on a four-level scale: “No impact” (0 points), “Has a slight impact” (1 point), “Has an average impact” (2 points), and “Has a strong impact” (3 points).

The analysis of respondents' answers regarding the influence of the motives under consideration showed the following (Appendix A):

- motives M1 and M2 had the strongest influence on the entire sample of respondents;
- among the facilitating motives, the motives associated with the need for social recognition and respect (these are motives M10, M12, and M13) had the least impact on the respondents. Two reasons for this can be assumed: either the respondents do not consider responsible consumption to be a reason for respect, or they have little need for social recognition;
- the motive related to the need for entertainment (motive M11) also had a slight impact on the respondents. Again, two reasons can be assumed: either the respondents do not consider responsible (in particular, green) consumption to be an interesting activity, or they have little need for entertainment;
- motives hindering green behavior had less impact on respondents than facilitating motives;
- among all motives, DM6 motive showed the least impact (two people felt weak pressure from this motive, two people – medium, and none – strong).

According to the above theoretical foundations, an important task of researching consumer motives is to identify the motives that have the greatest differentiating power in relation to consumers' green choices over a set of given product options.

To identify the relationships between motives and consumer choice of paper, the calculated variable of “Eco-friendliness of paper choice” was introduced, and correlation analysis was applied. The calculation of Spearman's correlation coefficient demonstrated the presence of a statistically significant correlation of slight or medium strength between the “Eco-friendliness of paper choice” value and each of the factors M2, M9, M8, M1, M4, and M6 (Table 5). The rest of the motives did not show their influence on the decisions of the respondents regarding office paper: they encouraged respondents to other manifestations of green consumption.

Table 5. Spearman’s correlation coefficient between the variable of “Eco-friendliness of paper choice” and estimates of the influence of motives

Motives	Spearman’s correlation coefficient	p-value
M2	0.498	0.002
M9	0.447	0.005
M8	0.406	0.013
M1	0.376	0.022
M4	0.364	0.027
M6	0.330	0.046

2.2.3. Part 3. Analysis of values that are bases of motives and preferences

According to part 3 of the questionnaire, the respondents were offered the list of values (described in Table 2) and were given the task of evaluating the degree of importance of each of them. The importance of values was assessed on a four-level scale: “Not important” (0 points), “Has little importance” (1 point), “Has medium importance” (2 points), and “Very important” (3 points).

In addition to the values from Table 2, respondents were also asked to evaluate the value of “Health and safety” (this value acted as a kind of standard). The results of the ranking of values are given in Table 6.

Table 6. Ranking of values according to the degree of their importance for respondents

Values	Rank
Health and safety	1
Freedom	2
Self-development	3.5
Knowledge, skills, abilities	3.5
Wealth	5
Pleasure and comfort	6
Nature	7
Social order, obedience, compliance with rules	8
Entertainment and novelty	9
Interests of other people and social justice	10
Social recognition	11
Country success	12
Social power	13

According to the above theoretical foundations, an important task of the research on individual values is to identify the relation between the values and motives of the respondents.

As a result of processing parts 2 and 3 of the conducted pilot survey, it was found that the “motive – value” pairs demonstrate a statistically significant relationship with the absolute value of Spearman’s correlation coefficient (ρ) higher than 0.5 (Figure 1):

- motive M2 and the value “Nature;”
- motive M8 and value “Nature;”
- value “Self-development” and motives M9, M3 and M5.

In addition, the analysis determined several weaker statistically significant relationships. Figure 1 shows the relationships found for motives M1, M2, M4, M6, M8, and M9 (which demonstrated an influence on respondents’ decisions regarding office paper). If one combines the results of processing parts 1-3 of the survey, several chains “values – motives – consumer preferences” can be found (Figure 1).

The pilot survey revealed some shortcomings of the developed questionnaire. Based on its processed results, the following changes in the questionnaire were implemented:

1. Motive M1, “I support smart consumption, rejection of unnecessary purchases,” did not show a positive relation with the value of “Self-development,” although it was formulated on the bases of this value (Table 3). It can be assumed that respondents do not associate smart consumption with self-development. Therefore, it is advisable to introduce a separate value of “Asceticism” into the list of values, and to specify motive M1, changing it to the following, “I support moderate, thrifty consumption, rejection of unnecessary purchases.”
2. Motives related to the desire to support domestic businesses were not tested in the first part of the survey. In the conditions of the war in Ukraine, it is possible to foresee an increase in the importance of these motives for Ukrainian consumers. Therefore, in the future, it is advisable to check the indicated motives within the limits of a separate study.

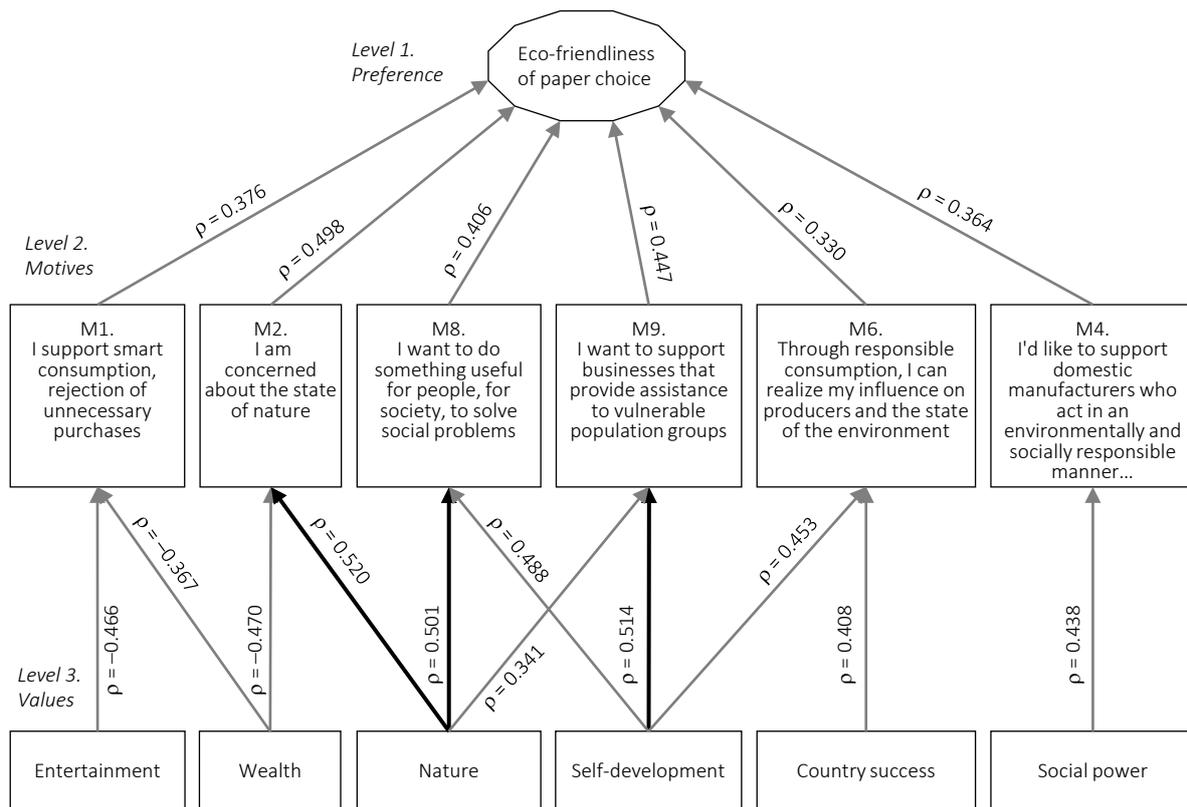


Figure 1. The system of value factors for the green choice of office paper

3. DISCUSSION

The proposed approach develops previous studies devoted to the analysis of value factors of green consumption. A distinctive feature of the proposed approach is the use of a three-level system of factors, in which the intermediate level contains a set of motives for green consumption.

The expediency of using a three-level factor system of green consumption with an intermediate level of motives was justified with the help of a pilot survey, which revealed causal relationships between the values, motives, and preferences of respondents in the aspect of responsible consumption of office paper.

For comparison, the study conducted a correlation analysis of a two-level system of factors (without the level of motives). According to this analysis, no significant correlations were found. In the two-level system, the closest relationship (this is the relationship between the eco-friendliness of the choice and the value of "Nature") is characterized by a correlation coefficient of 0.344 and a p -value

of 0.0502. The reason for difficulties in identifying relationships in a two-level factor system may be the high level of abstraction of the "value" category. This fact confirms the expediency of using a three-level system of factors.

In contrast to this paper, de Aragão and Alfinito (2021), Sonoda et al. (2018), Caracciolo et al. (2016), and Karp (1996) examined the direct influence of value orientation of an individual on his green behavior and green consumption without taking into account the level of motives. Differences in the analyzed factor systems determined differences in the research results. According to de Aragão and Alfinito (2021), Sonoda et al. (2018), Caracciolo et al. (2016), and Karp (1996), only the meta-values of "Self-transcendence" (first of all, the value "Universalism") and/or "Openness to change" were among the positive predictors of eco-consumption. Only in one work of Sonoda et al. (2018) the value of "Security" (the content of meta-values is given in Table 1) was mentioned as positive predictor. Also, in all the mentioned studies, the set of negative predictors of eco-consumption includes the value of "Self-enhancement". Besides, in two stud-

ies (Karp, 1996; Caracciolo et al., 2016), the value “Conservation” was also included among the negative predictors of eco-consumption, and in one study of Caracciolo et al. (2016) – “Hedonism.”

Thus, previous studies show that only a small number of values, primarily socially oriented values, stimulate individuals to environmentally friendly consumption, and individualistic values, on the contrary, demotivate people to behave greenly. This pattern is statistically confirmed when using a two-level system of factors of environmental consumption. In contrast, the present study uses a different idea. It is assumed that an individual is stimulated to eco-consumption by set of values, not excluding

individualist values; and the influence of values is mediated by motives. For example, the value “Social power” can indirectly stimulate an individual to eco-consumption through the motive of influencing producers (M4: “I would like to support domestic manufacturers who act in an environmentally and socially responsible manner”). The results of processing a pilot survey using a three-level system of factors strengthened this assumption. The obtained system of value factors of green consumption needs clarification based on the results of a full-scale survey. The list of motives and values of the questionnaire is subject to further clarification based on the results of future surveys.

CONCLUSION

This study sought to develop the theoretical foundations of constructing a three-level system of value factors of green consumption on the example of office paper consumption eloped. The composition of elements of the value factors system of green consumption has been formed, which, in contrast to the previously used ones, has three levels: the preferences, motives, and values of consumers. Values and motives, which are considered hypothetical elements of the system of factors of consumer behavior, were determined using Schwartz’s theory of values.

The theoretical basis for identifying the relationships between the value factors of green consumption using the methods of mathematical statistics has been formed. Three stages of the survey were described, and each of them was designed to analyze the elements of one of the levels of the factor system. The first stage is designed to identify consumer preferences over a set of given product options (office paper), which differ in price, quality, and eco-friendliness. The second stage is aimed to identify the motives that influence consumer preferences; at this stage, rank correlation coefficients were calculated between the evaluation of the importance of the motives and the calculated value of “Eco-friendliness of paper choice.” The third stage is aimed to identify the values that determine the respondents’ motives; the rank correlation coefficients between the evaluation of the importance of motives and the evaluation of the importance of the respondents’ values are calculated.

A pilot survey was carried out to check the feasibility of the proposed approach and the quality of the created questionnaire. The three-level system of value factors for the green choice of office paper was built based on the results of processing the pilot survey (Figure 1). This system contains connection between eco-friendliness of consumer preferences – through motives – with such values as “Nature,” “Self-development,” “Country success,” “Social power” (direct relationship), and “Entertainment” and “Wealth” (inverse relationship). Thus, respondents are driven to green consumption not only by socially oriented values but also by individualistic values. The conducted survey demonstrated that the assumptions made regarding the relationships of preferences, motives, and values of consumers are justified.

Further research may modify the proposed approach to identify the value factors system of consumer choice for many other types of products. The systems of value factors of green consumption revealed using the proposed approach will allow the prediction of consumer behavior more accurately, as well as the formation of targeted marketing offers for green goods, taking into account consumer motives.

AUTHOR CONTRIBUTIONS

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APPENDIX A

Table A1. Ranking the motives according to the degree of their influence on consumer preferences toward eco-friendliness

N	Motives	Marking	Total points	Rank
1.	I support smart consumption, rejection of unnecessary purchases	M1	92	1
2.	I am concerned about the state of nature	M2	83	2
3.	I would like to support domestic manufacturers who act in an environmentally and socially responsible manner, as this behavior will contribute to their success on the European and global market	M4	80	3
4.	I would like to practice responsible consumption as these are new goals for my self-development	M3	78	4
5.	I am interested in understanding the issues of responsible consumption, this is new knowledge	M5	77	5.5
6.	I want to do something useful for people, for society, to solve social problems	M8	77	5.5
7.	I believe that responsible consumption is the duty of every citizen, it is a mandatory rule for everyone	M7	76	7
8.	Through responsible consumption, I can realize my impact on producers and the state of the environment	M6	72	8
9.	There is no desire to pay more for green products	DM1	66	9
10.	There is a lack of available information about the social responsibility of producers	Info1	65	10
11.	I want to support businesses that provide assistance to vulnerable populations groups	M9	63	11
12.	There is a lack of available information about the eco-friendliness of products	Info2	62	12
13.	I want to support domestic producers for the prosperity of our country	M10	61	13
14.	There are doubts that environmental labeling carries true information	Info3	60	14
15.	It is interesting to be engaged in responsible consumption, for me it is a new quest, a new entertainment	M11	55	15
16.	I believe that responsible consumption is something for what I will be respected	M12	51	16
17.	I believe that producers, not consumers, should deal with environmental issues	DM3	45	17
18.	There is no desire to think about issues of ecology and responsible consumption, and to waste time on it	DM2	42	19
19.	There is no certainty that green consumption really helps to preserve nature	Info4	42	19
20.	I would like to practice responsible consumption because it is a trend now	M13	42	19
21.	I feel like I am forced to be engaged in responsible consumption, so I do not want to	DM4	25	21
22.	Responsible consumption is not interesting	DM5	24	22
23.	There is no certainty that responsible consumption has a positive effect on the country's economy	Info5	23	23
24.	Responsible consumption sucks, it is for nerds	DM6	6	24