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FACTORS DETERMINING PRO-ECOLOGICAL BEHAVIOUR AND ATTITUDES OF CLIENTS OF CO-OPERATIVE BANKS IN MALOPOLSKIE PROVINCE

CZYNNIKI DETERMINUJĄCE PROEKOLOGICZNE ZACHOWANIA I POSTAWY KLIENTÓW BANKÓW SPÓŁDZIELCZYCH W WOJEWÓDZTWIE MAŁOPOLSKIM

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Summary: The main goal of this paper is to provide the description of pro-ecological behaviour and attitudes of clients of cooperative banks as well as to identify selected factors determining those. The main source of data for analysis and conclusions was provided by primary information. The research tool took the form of a survey questionnaire. The purposive sampling was used (310 respondents). Statistical analysis included total statistical indicators and the logistic regression model. Based on the performed studies, it can be stated that in the consumers' opinion banks established on cooperative principles engage in matters related to environmental protection more than commercial banks. Gender and average monthly per capita income within the consumer's household were the factors determining the pro-ecological behaviour and attitudes of clients of cooperative banks.

Keywords: determinants, cooperative bank, eco-consumption, bank's client, environmental responsibility.

Streszczenie: Celem głównym pracy jest charakterystyka proekologicznych zachowań i postaw klientów banków spółdzielczych oraz identyfikacja czynników warunkujących i różnicujących te zachowania. Głównym źródłem danych były informacje pierwotne pochodne z badań własnych. Narzędziem badawczym był kwestionariusz ankiety. Badania przeprowadzono w 2020 r. Zastosowano dobór celowy. Próba badawcza wynosiła 310 osób. Do realizacji celu pracy wykorzystano również źródła wtórne. Analiza statystyczna badanego materiału obejmowała sumaryczne mierniki statystyczne oraz model regresji logistycznej. W opinii konsumentów banki zorganizowane na zasadach spółdzielczych bardziej angażują się w sprawy ochrony środowiska niż banki komercyjne. Klienci banków spółdzielczych identyfikują najczęściej dwa rodzaje aktywności tych instytucji na rzecz ochrony środowiska:

prowadzenie ekogospodarki oraz obecność w ofercie produktów proekologicznych. Proekologiczne zachowania i postawy klientów banków determinowały płeć i przeciętny miesięczny dochód przypadający na osobę w gospodarstwie domowym konsumenta.

Słowa kluczowe: determinanty, bank spółdzielczy, ekokonsumpcja, klient banku, odpowiedzialność za środowisko.

1. Introduction

From the mid-20th century, developed countries have seen dynamic and deep changes in consumer market behaviour. These changes pertain to the hierarchy of needs, as well as the ways and means in which to meet such needs, and also criteria of the choices made (Smyczek, 2012). Economists and sociologists define the contemporary consumer as the post-modern consumer, an individual for whom purchased goods do not constitute merely a means of satisfying their needs, but are – first and foremost – a manner of demonstrating convictions, attitudes, and lifestyle. This is a very well-informed person, making purchase-related decisions not only through the prism of their benefit but also taking into consideration the side effects related to the purchased goods and services. The post-modern consumer pays particular attention to the relationship between human beings and nature which results in engaging in actions aimed at the protection of the natural environment and striving for purchasing and consuming ecological products (Kacprzak-Choińska, 2007). According to Inglehart (2000), the post-modern consumer prioritises such values as tolerance, human rights, freedom, satisfaction with one's life, and ecology.

In connection to the increasing level of society's environmental awareness, the ecologisation of consumption (eco-consumption) is a trend increasingly more often observed in consumer market behaviour. This trend was recognised to have been one of the most important consumer trends of 2019 (Pająk, 2019). Individuals engaged in environmental protection adjust their habits and increasingly more often choose environment-friendly products and services. Such an attitude impacts on manufacturers and service providers who are forced to alter production and service provision methods to render them more environment-friendly. Banks should also be included within this group (Borys, 2000). As indicated by Zabawa and Kozyra (2020), the development of a new type of banking, sustainable and socially responsible, has been observed around the world over the last few decades. In September 2019, the United Nations Environment Program Finance Initiative (UNEP FI) launched together with 130 banks from 49 countries "Principles for Responsible Banking" (6). "The Principles provide the framework for a sustainable banking system, and help the industry to demonstrate how it makes a positive contribution to society. They are accelerating the banking industry's contribution to achieving society's goals as expressed in the Sustainable Development Goals and the Paris Climate Agreement" (Principles for Responsible Banking, 2019).

Familiarity with up-to-date trends and their impact on consumer behaviour allows banking enterprises to better adapt the array of their services and marketing activities to the needs of post-modern clients. The set of issues concerning the pro-ecological behaviour of consumers on the market of banking services has not yet been sufficiently investigated. The Polish literature includes numerous publications related to the ecological conditioning of client behaviour, yet they are mostly studies concerning the general level of ecological awareness (Świadomość i zachowania ekologiczne Polaków, 2019) or consumer behaviour on the market for environmentally friendly products (Zalejski and Faszczewska, 2012; Mańkowska-Wróbel, 2014). Meanwhile, one cannot directly translate the experience acquired on product markets onto the financial services market, as the non-material nature of services, their non-homogeneity and the impossibility of patenting, sets them apart from the goods. Neither can one directly transpose the experience acquired on foreign financial markets (onto the domestic market) since societies differ one from another, if only in terms of their attitude towards money (Giagnocavo, Gerez, and Sforzi, 2012; Dumitraşcu, Feleaga, and Feleaga, 2014; Murawski, 2016; Yapici, Ögenler, Öner, Koçaş, and Şaşmaz, 2017). In this context, the essence of the research problem is to recognise selected factors conditioning the pro-ecological behaviour of clients of cooperative banks.

The main goal of this paper is to provide a description of the pro-ecological behaviour and attitudes of clients of cooperative banks as well as to identify selected factors determining such behaviour. These issues are of key importance for the management of banks and individuals shaping product policies in such institutions, as being equipped with an image of the contemporary consumer of bank services, they will be capable of adapting their product range to the needs of post-modern clients. In the context of the formulated objective, the following research hypothesis was adopted: the majority of cooperative banks' clients are characterized by a low level of ecological awareness, and its main determinants are gender and the level of average monthly income per person in the client's household.

2. Material and methods

The paper used primary and secondary sources. The main source of data for analysis and conclusions was provided by primary information originating from the author's own study. The research tool took the form of a survey questionnaire. The research was conducted in 2020 by means of a distributed supervised survey at selected cooperative banks. The respondents were clients of five cooperative banks. Purposive sampling was used, based on individuals who consented to complete the questionnaire. The conducted study was of a regional nature in connection with the local character of cooperative banks' operation. The research sample comprised 310 individuals. According to Kędzior and Karcz (2001), in regional studies a representative size

sample for individuals and households ranges from 200 to 500 elements. The study was conducted in Małopolskie Province.

The object of the study was the pro-ecological behaviour of cooperative bank clients[1], as well as their conditioning factors. The study's subjects were natural persons (18+) owning an account in a cooperative bank. The temporal scope of the issues investigated in the paper spans the years 2015-2019.

The survey questionnaire consisted of two parts: a module (6 questions) and questions concerning the pro-ecological behaviour and attitudes of consumers on the banking services market (11 questions). The survey included both single and multiple-choice questions. In the case of issues related to consumer attitudes, the five-point Likert scale was used. The study itself was preceded with a research tool pilot (the fourth quarter of 2019) aimed at eliminating incomprehensible or incorrectly answered questions.

In addition to the primary sources, to accomplish the goal of this paper secondary sources were also used: literature in the subject of banking and marketing, both in the form of non-serial publications and articles, and data obtained from internet pages.

The statistical analysis included:

- total statistical indicators,
- the logistic regression model.

The logistic regression model enables the modelling and simulation of the probability of an event described by a dichotomous variable, depending on various independent variables. In order to carry out the analysis properly, the studied population was divided into two groups: the pro-ecological-attitude clients and the group of traditional clients of banks.

The logistic regression model takes on the general form (Stanisz, 2016):

$$P = \frac{e^z}{1+e^z} = \frac{1}{1+e^z}$$

where: P – conditional probability,
e – residuals,
Z – dependent variable.

Using the model, the odds indicator (W) can be determined from the formula:

$$W = \frac{P_i}{1-P_i}$$

The odds indicator is the ratio of the probability of occurrence P_i ($i = 1, 2, \ldots k$) of a given event in the k-th unit to the probability of its non-existence. All the hypotheses were verified with a horizontal significance of $\alpha = 0.05$.

The results of the research were presented in a descriptive and tabular form.

[1] This paper uses the terms client/consumer interchangeably.

3. Pro-ecological behaviour and attitudes of clients of cooperative banks

The study was conducted in a group of 310 respondents, in which 58% of the study's participants were women and 42% men. Almost every second respondent belonged to the 36-50 age group. The oldest individuals were the least numerous respondent group. Individuals holding diplomas of secondary education were the most dominant respondent group. Almost 20% of the study participants held diplomas of higher education. Nearly 60% of the households were families where the average income per household member did not exceed PLN 1,000. More than 40% of the households were families of five and more. Four out of five respondents were inhabitants of rural areas.

To assess the pro-ecological behaviour and attitudes of cooperative bank clients a measuring instrument developed by the author was used. This was termed a bank client pro-ecological behaviour measuring instrument (hereinafter in the Polish abbreviation: MPZKB). In constructing the above-mentioned measuring instrument, assumptions were made that clients of banks are characterised by a higher level of ecological awareness on the banking services market if:

- the number of banking eco-products the consumer uses is higher,
- the consumer possesses knowledge about bank products supporting environmental protection offered by their bank of first choice,
- one of the motives determining consumers' choice of a bank is the presence of eco-products in its product range,
- the respondent thinks that each bank should engage in activities related to environmental protection,
- the client displays an attitude that all banks should include banking eco-products in their product range,
- the client consciously makes ecological choices in their everyday life.

At the first stage of the measuring instrument construction, the minimum and maximum number of points for the aspects subject to assessment were established. The first area subject to assessment was the number of eco-products used by clients of cooperative banks. The Polish banking sector is to an increasing degree becoming dependent on handling pro-environmental investments. With that in mind, banks have been systematically extending their product range both for natural and legal persons. Banking products financing the protection of the environment are loans for ecological purposes, deposits, green bonds, affinity type bank cards, bank consultancy, or structured products (Zabawa, 2019). In the survey, 1 point was awarded for each eco-product used by the respondent within the last five years, the maximum number of points received by the respondents was 2. Eco-products used by the study participants were: Internet accounts offering an e-statement service (70% of the respondents) and loans for the execution of environment protecting investments (5% respondents). In situations where the study participants did not use such services, they were awarded 0 points.

Another aspect subject to assessment was consumer awareness regarding the presence of products supporting environmental protection in the bank's product range. If the clients were able to indicate such products, they were awarded 1 point, if not – 0 points. As follows from the studies conducted, every fourth client of a cooperative bank knew that the product range of the bank they used included such products. More than 20% of participants' response was 'I do not know', whereas 55% indicated the option 'No' even though the bank being analysed included such products in its product range.

In constructing the MPZKB measuring instrument, one of the motives for choosing the bank was also included, namely the presence of environmental protection supporting products in its product range. In this case the five-point Likert scale was used, where '1' meant that this motive is completely insignificant for the respondent while '5' meant that the respondent completely agrees with the statement. As results from the conducted studies, almost 80% of respondents stated that the presence of eco-products in the product range of the bank did not constitute a premise taken into consideration when choosing the financial institution. This issue was important for 1% of the respondents, individuals wishing to take advantage of loans subsidised by the National Fund for Environmental Protection and Water Management (NFOŚiGW), but their banks did not offer such loans, and therefore they chose cooperative banks. The remaining respondents did not have an opinion regarding this issue (20%).

Next, the respondents were asked to express their opinion regarding the banks' engagement in environment protection-related activities, and in this case the five-point Likert scale was also used. Activities which banks engage in the scope of environment protection may be classified taking into account the type of activities conducted by the institution. Based on this division criteria, Dziawgo (2010) distinguishes four levels (from 0 to 3) of banks' engagement in matters of environment protection. Level 0 signifies no such action in a given bank. In the case of levels from 1 to 3, the higher level contains the characteristics of the lower level (the so-called 'funnel mechanism').

Level 1 is the lowest level of the entity's activity. Activities on this level include the voluntary sponsorship of an environmental protection initiative, and operations in the framework of marketing propaganda and investor relationships. In comparison with the higher levels, such activities require the relatively lowest engagement from the bank (Zabawa, 2019).

The next level (2nd) covers all activities within the bank's internal management. These actions are aimed at the organisation of the workplace and the resource management process taking into account the environmental protection-related requirements. The following activities are examples of banks' engagement on the second level: ecological education of the personnel, implementation of a green purchases policy, resource consumption monitoring (electric power, water, paper, other exploitation materials), and the reduction of harmful environmental impacts of

business travel and transport (carpooling, encouraging the personnel to use public transport, etc.).

The highest level of a bank's engagement in environmental protection is the third level. In this case, the range of banks' products includes services which facilitate the financing of environmental protection. Activities within the third level also include a decrease in banks' engagement in investments posing a hazard to the environment. Scholars, however, do not agree in this case, and some of them classify environmental risks within the second level (Dziawgo, 2010).

As follows from the conducted analysis, slightly more than half of the respondents expressed an opinion that banks should engage in activities of such a nature (16% of respondents chose 'strongly agree' for their answer, and 35% of cooperative banks' clients –'agree'). Almost every fourth respondent stated 'no'. The remaining participants (22%) did not have an opinion regarding this issue.

As already mentioned, the financial services supporting environment protection constitute the highest level of the ecological involvement of banks (Dziawgo, 2010). The respondents were asked to express an opinion whether ecological financial products should be available in each cooperative bank. The majority of the study participants thought so (70%). A significant number of the respondents disagreed (27%). These individuals suggested that some banks should specialise in such services as they think that not too many consumers use eco-products. Probably the respondent group questioned on this issue limited themselves only to loan services, not taking into consideration such popular products as an online bank account with e-statement functionality.

The last issue taken into account in the MPZKB measuring instrument is the client's conscious application of ecological choices in daily life (buying ecological food products, saving water, electric power, etc.). This aspect was also assessed using the five-point Likert scale. As results from the conducted studies, only 13% of the respondents declared a conscious ecological attitude. The majority of them (69%) declared no opinion regarding this issue. The remaining study participants stated that they do not follow such principles in their daily life.

In the outcome of the issues assessed using the Likert scale (four questions), the number of points marked by the respondents in individual questions was totalled and then divided by 4. The result thus obtained was added to the number of points awarded in the remaining two questions in the questionnaire. Hence, the MPZKB measuring instrument may assume a value in the 1 – 8 points interval.

As results from the conducted analysis, the average number of MPZKB measuring instrument points obtained by the studied group is 5. The minimal value is 3 points and was obtained by 3% of respondents. None of the respondents obtained the maximum score. The highest score in the analysed group was 7 points (2% of the study participants).

To determine the probability of the impact of selected demographic and economic factors on the pro-ecological attitudes of bank clients, the logistic regression model

was used. This model is used in situations where a dependent variable is of a dichotomous nature. In relation to the above, two types of consumer attitudes were adopted for further analysis: a pro-ecological attitude and a group of traditional clients of banks. The division into two groups of consumers was performed based on the MPZKB measuring instrument value. The first group included individuals who received a minimum of 6 points (30% respondents). If the MPZKB measuring instrument value had values ranging from 1 to 5 points, the study participant was qualified within the group of traditional clients of banks (70%). Six factors of a demographic and economic nature were used to construct the model. The characteristics of these variables are presented in Table 1.

Table 1. Characteristics of variables used for logistic regression analysis (six independent variables)

Symbol of the variable	Name of the variable	Unit of measure
Y	Pro-ecological behaviour and attitudes of clients	Dependent variable: (1) – yes, (0) – no
X_1	Gender	Independent variable: (1) – woman, (0) – man
X_2	Age	Independent variable: (1) – 18-25 years, (2) – 36-50 years, (3) – 51 years and more
X_3	Education	Independent variable: (1) – vocational, (2) – secondary, (3) – higher
X_4	Number of persons in the household	Independent variable: (1) – up to two persons, (2) – three persons, (3) – four persons, (4) – five persons and more
X_5	Average net income per capita in the household	Independent variable: (1) – up to PLN 1000, (2) – PLN 1001-2000, (3) – PLN 2001 and more
X_6	Place of residence	Independent variable: (1) – village, (2) – city

Source: own research, $n = 310$.

The results of the logistic regression model estimation for the six independent variables are presented in Table 2.

Taking into account the estimated model factors, the logistic regression model for the six independent variables takes the following form:

$$P(Y=1)=\frac{e^{3.831+1.122GENDER-0.272AGE-0.424EDUCATION-0.068PERSON.+0.636INCOME+0.673PLACE}}{1+e^{3.831+1.122GENDER-0.272AGE-0.424EDUCATION-0.068PERSON.+0.636INCOME+0.673PLACE}}.$$

For the received model the chi-squared value (23.695) is highly significant statistically ($p = 0.001$). As follows from the results, the following variables: gender

Table 2. Assessment of the logistic regression model parameters. The model describes the selected factors impacting the probability of pro-ecological attitudes of clients of cooperative banks (six independent variables)

Symbol of the variable	Name of the variable	Parameter rating	Significance	Odds ratio *W*
X_1	Gender	1.122	0.031*	0.325
X_2	Age	–0.272	0.395	0.761
X_3	Education	–0.424	0.311	0.654
X_4	Number of persons in the household	–0.068	0.756	0.934
X_5	Average net income per capita in the household	0.636	0.000*	0.529
X_6	Place of residence	0.673	0.349	1.959
–	Constant	3.831	0.040*	46.115

* statistical significance at $p < 0.05$.

Source: own research, $n = 310$.

(X_1) and average per capita net income in the respondent's household (X_5) significantly impacts the pro-ecological attitudes of clients of cooperative banks. In turn, the remaining factors such as age (X_2), education (X_3), number of people in the household (X_4), and the respondents' place of residence (X_6) proved to be insignificant (level $p > 0.05$). For this reason, a simpler model without these variables was considered at a further stage of the research. The analysis takes into consideration only the statistically significant determinants. The obtained values are presented in Table 3.

Table 3. Assessment of the logistic regression model parameters. The model describes the selected factors impacting the probability of pro-ecological attitudes of clients of cooperative banks (two independent variables)

Symbol of the variable	Name of the variable	Parameter rating	Significance	Odds ratio *W*
X_1	Gender	0.962	0.039*	0.382
X_5	Average net income per capita in the household	0.543	0.001*	0.580
–	Constant	2.868	0.001*	17.60

* statistical significance at $p < 0.05$.

Source: own research, $n = 310$.

The calculated parameter assessment values allow the model considered here to be recorded in the following form:

$$P(Y=1)=\frac{e^{2.868+0.962GENDER+0.543INCOME}}{1+e^{2.868+0.962GENDER+0.543INCOME}}$$

Among the factors taken into consideration in the model, the gender significantly impacts the probability of occurrence of the pro-ecological attitudes in the group of clients of cooperative banks. The higher probability of demonstrating pro-ecological attitudes occurs in women. Men are characterised by a 0.4 times lower probability of demonstrating pro-ecological attitudes when compared with female clients of banks. The obtained results are consistent with the results presented in the literature of the subject, from which it follows that women are characterised by a higher degree of ecological awareness than men. Such results were obtained both by Polish (Kalinowska, Szkop, and Wiśniewski, 2016; Rostkowski, 2019) and foreign researchers (Zelazny, Chua, and Aldrich, 2000; Yapici et al. 2017).

The pro-ecological stance of clients of cooperative banks is also income--dependent. As results from the performed statistical analysis, the probability of the occurrence of pro-ecological tendencies of clients increases by 0.6 times along with the increase of the per capita net income in the family by PLN 1,000 (another income category). The presented situation follows from the fact that having satisfied their basic needs (food, basic hygiene products, bulk payment charges, etc.) people with better earnings may allocate part of their income to goods of a different nature, e.g. pro-environmental investments (photovoltaics, thermal insulation). At the same time, such individuals are characterised by higher creditworthiness in banks which facilitates their better access to loans for such purposes. Results consistent with those presented were also obtained by Dziawgo (1998) who demonstrated that individuals with a high income more often displayed pro-ecological attitudes. In turn, Yapici et al. (2017) demonstrated the lack of a statistical correlation between consumers' pro-ecological attitudes and income.

4. Conclusions

The market behaviour of the contemporary consumer is modified due to the influences of various trends which occur with variable intensity. Eco-consumption is one of the many market trends of the 21st century. This trend is manifest in the consumer's pro-ecological attitude, expressed by, among others, changes in lifestyle, high level of ecological awareness, rationalising consumption, and opting for products and services which do not pose hazard or risk to the environment. In 2019, this trend was recognised to have been one of the most important consumer trends on the financial markets. This is because environmental protection is one of the most urgent challenges of our times and requires involvement on the part of all entities, including

banks. The study presents the results of research into the pro-ecological behaviour and attitudes of clients of cooperative banks on the financial services market.

Based on the conducted studies, it can be stated that in the consumers' opinion banks established on cooperative principles engage in matters related to environmental protection more than commercial banks. This conviction may arise from the disproportion between the large financial potential of commercial banks when compared to cooperative banks, and the actual pro-ecological initiatives these institutions engage in.

The clients of cooperative banks most often identify two types of such institutions' pro-environmental activities: conducting an eco-economy and the presence of pro-ecological products in their product range. In the conditions of the intensifying eco-trend, cooperative banks to an increasing degree should engage in environment protection matters to maintain the long-term image of an ecologically responsible institution. The eco-image of the enterprise is a decisive criterion in purchasing services.

The presence of products facilitating environment protection in the product range of a financial institution may also be the premise for the selection of a bank by customers. As follows from the studies, this motive constituted the basic criterion for the selection of a bank for 1% of clients who found eco-loans only in the product range of cooperative banks. The availability of eco-products in the cooperative banks may distinguish them from competitors. At the same time, sales of such products will facilitate an increase in income from interest rates and commissions which is very important during the period of low interest rates on the market. The eco-products which clients of cooperative banks used were: Internet banking with e-statement module (70% clients) and loans for the financing of environmental protection-related investments (5%).

As results from the conducted studies, almost one-third of clients of cooperative banks were characterised by a high level of ecological awareness. Gender and average monthly per capita income within the consumer's household were the factors determining the pro-ecological behaviour and attitudes of clients of cooperative banks. Pro-ecological attitudes were most often characteristic of women and households with a higher per capita net income in the family. These determinants were established based on the constructed logistic regression model. The proposed model allows to determine the probability of attracting the interest of a potential client by an offered range containing eco-products. Considering the research hypothesis presented in the introduction, it should be stated that it was approved.

Considering the high variability of consumer behaviour on the banking services market and the susceptibility to the impacts of a variety of determinants, continuing further studies in this scope in the future, with a view of determining the dynamics and directions of occurring changes, would be interesting.

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