
Consumer Attitudes on the Food Market: The Case of Poland

Submitted 02/04/21, 1st revision 24/04/21, 2nd revision 25/05/21, accepted 15/06/21

Anna Żelazna¹, Agnieszka Bojanowska², Barbara Buraczyńska³

Abstract:

Purpose: The purpose of the study is to explore contemporary consumption trends in Poland, with special consideration for the determinants of consumer attitudes adopted when choosing food products.

Design/Methodology/Approach: The research method was a diagnostic survey with the use of a research tool – a questionnaire. The basic source of data presented in this article was information collected from a survey carried out in December 2020. In the process of preparing this publication, both literature analysis of the discussed issue and questionnaire research were used. The article presents in detail differences in behaviour patterns at the stage of making purchasing decisions in Poland, depending on gender, education, and per-capita income in the household.

Findings: The conclusions from the study indicate that consumers in Poland display some differences at the stage of analysing whether a product is organic. When shopping for food products, they adopt various attitudes which can be distinguished based on consumption determinants. The knowledge obtained can be used both for practical purposes and for further theoretical considerations.

Practical Implications: The article sheds some light on the determinants of the purchasing choices of contemporary consumers in Poland, and on the attitudes they adopt when choosing food products. This knowledge can influence the means of conveying information about the ecological nature of products, facilitating the forms of presenting labels and compositions by producers so as to meet consumer expectations, and using the knowledge about the factors characterising each of the attitudes to present information about producers' own activities in a way better tailored to expectations.

Originality/Value: This article presents the results of a study on the determinants of shopping choices conducted on a representative group of 1000 Poles at the end of 2020.

Keywords: Sustainable consumption, sustainable practices, sustainable development, ecoproducts, consumption decisions.

JEL codes: A13, D11, D12, D26

Paper Type: Research article.

¹Department of Economics and Economic Management, Faculty of Management, Lublin University of Technology, anna.zelazna@pollub.pl

²Department of Marketing, Faculty of Management, Lublin University of Technology, a.bojanowska@pollub.pl

³Department of Technology Fundamentals, Faculty of Technology Fundamentals, b.buraczynska@pollub.pl

1. Introduction

The discussion on consumer choices which are consistent with traditional trends, as opposed to the advocating of sustainable and responsible consumption, has been going on for years. Traditional consumers are mainly driven by their own benefits derived from the transactions they make, whereas for advocates of responsible consumption, shopping is not only an opportunity to satisfy their needs, but also a way to make their ethical choices (Lewicka-Strzałecka, 2006). Ethical consumers want to know the origin and composition of the products they buy. They seek information about the social-responsibility practices of the producing company.

Greater knowledge about sustainability and sustainable consumption tend to be related to a more responsible intention to buy a sustainable product (Baranov *et al.*, 2019). The idea of ethical consumption is that the choice of goods and services is influenced by the moral preferences of the consumer and, by the information available to him/her about the moral behaviour of the seller's company (the impact of the company on the environment, society, attitude to workers, contribution to progress, etc.) (Dunlap *et al.*, 2021).

Green consumption involves choosing products which are manufactured in a way which does not contribute to environmental degradation, as well as buying goods which do not generate large amounts of waste, or which ensure their reuse. Eco-conscious consumers buying ecoproducts take action to protect the environment, avoid non-biodegradable packaging, and support environmental organisations (Czubała, 2011). Modern consumers are paying increasingly more attention to ecological aspects such as natural resources and environmental protection. Green consumption manifests itself in the economical use of goods, in reducing the quantity of goods which consume vast environmental resources, and also in avoiding non-essential products (Włodarczyk, 2013).

The purpose of the study was to explore the determinants of consumption in Poland. It was considered of value to identify the sources of information about the ecological nature of products, and the factors which are particularly important in the choice of food products.

The following research questions were framed, what are consumers driven by when purchasing food products? Is it possible to identify determinants in the context of consumer attitudes? Do these attitudes depend on consumers' income, gender, age, or place of residence? The study was conducted in December 2020, with the pandemic caused by the SARS-CoV-2 virus clearly contributing to changes in consumption patterns (Boons *et al.*, 2020; Degli *et al.*, 2021; Cohen, 2020; Baker *et al.*, 2020; Koch *et al.*, 2020). The study was carried out on a representative group of 1000 Polish residents, which significantly broadened the intelligence on consumption trends.

2. State of the Art

Green consumption has been gaining popularity due to State policies and the promotion of new trends by governmental and non-governmental organisations, all of which influence consumer awareness. State-policy actions can be seen as including all legal regulations, programmes, and strategies which jointly lay down the framework for making production and consumption more eco-friendly (Zalejski and Faszczewska, 2012). Ethical-consumption practices are formed primarily in developed countries with strong civil institutions. Nevertheless, this process gradually extends to developing countries (States Vitell and Muncy, 2005). New trends in consumption are also reflected in the definition of sustainable consumption, based on the assumption that meeting the needs of current generations must not result in reducing the possibility of meeting the needs of future generations (Wasilik, 2014), in consequence of which rational consumer behaviour and purchasing decisions are aimed at achieving consumer balance, and accomplishing the objectives of sustainable development (Kryk, 2011).

Sustainable consumption is based on several principles. The first of these is the principle of economic rationality, which entails preserving consumption possibility in the long term, and seeks to optimise the use of goods in the economic domain. The second principle relates to ecological rationality, under which consumers should choose products which do not adversely affect the environment, and which ensure the long-term use of resources. The third principle involves social rationality, under which consumers should choose goods in such a way as to contribute to solving society's problems. Consumers defined as sustainable reflect a combination of all three characteristics: economic, ecological, and social consumers (Pabian, Byłok, Rajczyk, and Rajczyk, 2012).

Consumer decisions consistent with the concept of sustainable consumption result from product knowledge and environmental education. They are based on rationality, consumer awareness of product-manufacturing methods and techniques, and environmental and social impacts, all of which contribute to choosing products which are safe, energy efficient, and durable in use. A greater understanding of the impact of human affinity with nature on the quality of life is yet another feature of modern consumers. Consumption respecting the principles of sustainable development, defined as durable consumption, facilitates the continuous reproduction of the object of consumption, thus increasing the quality of life. At the same time, consumer-behaviour patterns influence companies to undertake environment-oriented measures, to implement codes of good practice, to publish social reports, to conduct socially-engaged marketing, and to put into practice the concept of social responsibility (Mazur-Wierzbicka, 2015).

Manifestly, the ongoing pandemic has significantly changed the way food and cleaning products are consumed in Poland. A rapid growth in the consumption of pre-packaged fruit and vegetables during the COVID-19 pandemic, a greater

consumer interest in local products, and an overall increase in the consumption of healthy food, including fruit and vegetables – these are all changes pointed out by fruit-and-vegetable market experts at the European Commission. Surveys conducted in Poland have revealed that every third person views consumer ethnocentrism as important enough to declare buying local products, even if their prices are on the rise. Nonetheless, despite their best intentions, consumers tend to rarely inspect product composition. They are guided by the Polish-sounding name of the product, or the “made in Poland” label. (PMR’s report – *Retail trade in food products in Poland 2019*).

3. Material and Methods

The research method was a diagnostic study, with the use of a questionnaire survey as the research tool. This method enables verifying whether a given occurrence under analysis actually happens, and, if so, determining the extent of its intensity. It is used in researching attitudes and motives behind respondents’ actions, as well as their knowledge about the occurrence or process in question (Krajewski, 2006). A pilot study was previously conducted involving self-circulation of the questionnaire among 10 experts, in order to verify its validity. Eventually, the questionnaire was distributed by a research agency, and the study aimed at a broad analysis of consumer behaviour in different markets. The part of this research which related to identifying sources of information about the organic nature of products and the determinants of food-product choices among consumers in Poland was used for this paper.

The first question was formulated as follows: based on what information do you consider a product to be organic? The second question was what guides you when you buy food products? Both questions were closed-ended, and consumers could choose from 4 response options to the first question, and from 11 to the second one, while also indicating the frequency of occurrence on a 5-point Likert scale, in which 1 = never, 2 = occasionally, 3 = sometimes, 4 = frequently, and 5 = very frequently. A reliability analysis performed for both questions showed that Cronbach’s alpha exceeded 0.6. For the first question, it was 0.63, and for the second question, as regards food products, it was 0.81.

The study was carried out on a sample of 1000 adult Poles, participants in the Online Survey Panel. The sample was representative of the population of online-panel contributors, based on the percentage of Internet users by age and gender (in accordance with the Centre for Public Opinion Research (CBOS) survey report on *Using the Internet*, No. 85/2020), whereby Internet users were defined as those who used the Internet at least once a week. The study involved 501 women and 499 men. The respondents were divided by age into six groups: respondents aged ≤ 24 (127 people, 12.7% of the survey sample), people aged 25-34 (24.1%), those aged 35-44 (25.8%), respondents aged 45-54 (16.8%), those aged 55-64 (13.5%), and respondents over 65 years of age (7.1% of the survey sample). Among the

respondents, 100 people declared a monthly per-capita income in their household of less than PLN 1000; 351 declared PLN 1100–2000, 347 respondents PLN 2100–3000, 150 respondents PLN 3100–4900, and 52 respondents above PLN 5000.

4. Research Results

Statistical analyses were performed using Statistica software. The relationship between the responses provided by the subjects, and their gender and age groups, was examined using the χ^2 test. Regarding all the surveyed issues, the null hypothesis of no relationship between the groups in terms the above variables was set against the alternative hypothesis that such a relationship in fact existed. Based on the results of the χ^2 test, the null hypothesis was rejected and the alternative hypothesis, indicating the existence of a relationship, was considered valid. In all tests, the level of significance was assumed at $p = 0.05$. The first research problem (P1) involved identifying sources of information about the organic nature of products. When asked on what basis they considered a product to be organic, the respondents could choose from the following options.

- 1.01. Based on the description on the packaging (organic product, bio product, etc),
- 1.02. Based on the signs, marks, and logos of the certifying organisations,
- 1.03. Based on second-hand opinions that the product was organic,
- 1.04. Based on manufacturer's information on websites.

The Mann Whitney U test (Mann and Whitney, 1947) was used to explore the differences in the responses provided by men and women. The H_0 hypothesis of there being no differences between male and female respondents was rejected in favour of the alternative hypothesis that differences exist and are statistically significant. In other words, for all four questions, the mean response rate among women was higher than among men (Table 1).

Table 1. The results of the Mann Whitney U test for questions 1.01 – 1.04 by gender

	Rank sum Male	Rank sum Female	Z	p	Mean Male	Mean Female
1.01	233348.0	267152.0	-3.77911	0.0001	3.54	3.79
1.02	221591.5	278908.5	-6.42292	0.0000	3.29	3.72
1.03	238251.5	262248.5	-2.59901	0.0093	2.95	3.13
1.04	237255.0	263245.0	-2.81498	0.0049	2.98	3.18

Source: Own study.

The Kruskal-Wallis test (Kruskal and Wallis, 1952) (which is a non-parametric version of the analysis of variance) was used to determine whether the responses provided by representatives of any age group differed from those in the other groups. Generally, this is a test which compares rank sums. For question 1.02, the test results were found to be significant; for the other questions, they were not (Table 2).

Table 2. The results of the Kruskal-Wallis test for questions 1.01 – 1.04 by age group

	ANOVA	K-W	p
1.01		5.0	0.414
1.02		19.4	0.002
1.03		7.1	0.210
1.04		10.5	0.060

Source: Own study.

For questions 1.01, 1.03, and 1.04, the responses provided by people of different ages were not found to vary to a considerably significant extent, while for question 1.02, at least one age group provided responses different from the rest.

Table 3. The results of the post-hoc Dunn test for question 1.02, showing the correlations between individual age groups

	≤ 24	25–34	35–44	45–54	55–64	≥ 65
≤ 24		1.0000	1.0000	0.0115	0.7256	1.0000
25–34	1.0000		1.0000	0.0084	1.0000	1.0000
35–44	1.0000	1.0000		0.0204	1.0000	1.0000
45–54	0.0115	0.0084	0.0204		1.0000	1.0000
55–64	0.7256	1.0000	1.0000	1.0000		1.0000
≥ 65	1.0000	1.0000	1.0000	1.0000	1.0000	

Source: Own study.

The specific post-hoc Dunn tests revealed differences in the responses provided by subjects representing the age groups of up to 24 and 45–54, between those aged 25–34 and 45–54, and between respondents aged 35–44 and 45–54 (the median of responses in the 45–54 age group was significantly lower relative to the other age groups).

Table 4. Descriptive statistics for question 1.02 by age group

Age	N	Mean
≤ 24	127	3.65
25–34	241	3.61
35–44	258	3.59
45–54	168	3.23
55–64	135	3.40
≥ 65	71	3.49

Source: Own study.

It was also shown that 82% of the respondents in total answered “Yes” or “Probably yes” to the question of whether they paid attention to who the manufacturer was when making purchasing decisions. Only 1% of the respondents answered “No”, 7% answered “Probably not”, and 11% answered “Hard to say”. The analysis by gender

indicated that 81% of the surveyed women and 83% of the surveyed men answered “Yes” or “Probably yes”. The percentages for the remaining responses were similar.

The second research problem (P2) involved identifying the determinants of food-product choices among consumers in Poland. Factors influencing purchasing decisions regarding various products, including food products, were analysed. The respondents indicated that they were driven, when making their purchasing decisions, by the following factors.

- 2.01. Price
- 2.02. Analysis of product composition, materials, and ingredients
- 2.03. Obtained product-quality certificates and marks
- 2.04. Packaging
- 2.05. Conviction that the product best and fully satisfies specific needs
- 2.06. Product quality
- 2.07. Intent to support local and regional producers
- 2.08. Intent to support domestic producers
- 2.09. Intent to support the employer or the company employing someone close to the respondent (family, friends)
- 2.10. Opinions on the manufacturer regarding its non-business activities
- 2.11. Opinions on the manufacturer regarding its business activities (paying on time, honesty in business, the way of treating contractors, ethical business conduct).

A factor analysis of the survey questions was conducted for both all respondents and by gender. The questions were divided into 2, 3, or 4 factors, depending on the results of the analysis, and the division was based on the eigenvalues above 1 or close to 1, a factor pattern plot indicating how many factors the question items should be divided into, and the percentage of the total variance explained.

When analysing all respondents, 3 factors were found to explain 60% of the variance. For women, an analysis of the determinants of food-purchasing choices showed that 2 factors explained 48% of the total variance, and 3 factors explained 58% of the variance. In addition, 3 eigenvalues exceeded 1, and the factor pattern plot suggested a division into 3 factors (I, II, III). For men, 2 factors were found to explain 54% of the total variance, 3 explained 63%, and 4 explained 70%. There were only 2 eigenvalues above 1, and the factor pattern plot suggested, as in the case of women and all respondents, a division into 3 factors (I, II, III) (Table 5).

Table 5. The results of an exploratory factor analysis using the principal-components method in the group of all respondents and by gender (*x* - significant factors loadings >0.7 in absolute value)

Factors	All respondents			Women			Men		
	I	II	III	I	II	III	I	II	III
2.01			x			x			x
2.02		x			x			x	

2.03	x		x		x	
2.04		x		x		x
2.05	x			x		x
2.06	x		x			x
2.07	x		x		x	
2.08	x		x		x	
2.09	x		x		x	
2.10	x		x		x	
2.11	x		x		x	

Source: Own study.

To explore the differences for each of the three attitudes relative to gender, a Mann-Whitney U test was conducted. For all three attitudes, the test results were not considered significant. This means that there were no grounds for rejecting the null hypothesis that there was no difference between the groups, and that Attitudes I, II, and III were not gender-dependent. Significant results in the Kruskal-Wallis analysis of variance were obtained in only two cases (Table 6).

Table 6. The results of the Kruskal-Wallis test for Attitudes I-III by education and per-capita income

	Attitude I		Attitude II		Attitude III	
	K-W	p	K-W	p	K-W	p
Education	2.205	0.5309	13.004	0.0046	0.584	0.9001
Per-capita income	14.054	0.0071	9.207	0.0561	4.75	0.3139

Source: Own study.

For Attitude II, at least one of the education groups was significantly different from one of the others. Based on the post-hoc Dunn test, it was found that Attitude II in people with secondary education was significantly different from that adopted by people with higher education. For Attitude I, at least one of the groups distinguished by per-capita income was markedly different relative to any of the other groups. Following the post-hoc Dunn test, it was found that Attitude I in the respondents indicating per-capita income of PLN 1100–2000 differed significantly from those with per-capita income of PLN 3100–4900.

5. Discussion and Conclusions

The study carried out for the purpose of this article expanded and confirmed the current state of knowledge about sources of information on ecoproducts, and on attitudes adopted in the food-purchase process.

The results of the factor analysis using the principal-components method in the group of all respondents, as well as among the individual women and men groups, showed that 3 types of consumer attitudes can be distinguished in the case of food products. The first attitude is adopted by consumers who, when making their purchasing choices, are guided by the need to support local, regional, and national

producers, and are interested in the producers' activities aimed at local populations, workers, and the environment (consumers with ethnocentric shopping preferences, oriented towards the consumption of local and domestic products). The second attitude is characterised by an orientation towards ecoproducts. Consumers adopting that attitude tend to scrutinise product composition, certificates, and labels confirming its ecological nature (eco-conscious consumers look for ecoproducts in biodegradable packaging). The third attitude is characterised by its focus on price, packaging, and the extent to which specific needs are satisfied (traditional consumers making purchasing choices on the basis of a rational price-need-satisfaction analysis).

A similar study conducted on a group of consumers in 2012-2013 made it possible to develop two scales of consumption: traditional and responsible (Żelazna, 2013), which seems to testify to significant changes in consumer attitudes regarding food products which have taken place over the years. The study found that there were no significant gender-dependent differences in adopting these three separate attitudes among respondents, but a statistically significant difference could be observed for Attitude I with regard to per-capita income in the household, and for Attitude II when analysed in terms of education.

A study conducted this year on a group of students from Bologna and Milan, Italy, found that female consumers with a relatively high educational status were the most interested in ethical consumption (Degli Esposti, Mortara, and Roberti, 2021). Luchs and Mooradian (2011) made the observation that women show more concern for social and environmental issues, and make more socially and environmentally friendly purchasing decisions. Furthermore, it has been observed that the greater concern for the environment among women occurs from an early age (Zelezny, Chua, and Aldrich, 2000). At the same time, those who make sustainable purchases are guided by a genuine concern for sustainable development, rather than by fashionable trends. Only a small percentage of the respondents (6%) claimed to make such consumption choices due to fashion or so-called conspicuous consumption, while the vast majority (71.6%) reported no interest in gaining social approval or the need to show off (Degli Esposti, Mortara, and Roberti, 2021).

In Poland, the study found no gender differences in the adoption of attitudes in the consumption of food products. However, the analyses confirmed some statistically significant differences between the responses provided by women and men in terms of how they searched for information about ecoproducts. Women appear to be generally more likely to inspect the products they buy in terms of information on packaging; they also pay attention to labels, logos, and information on websites, and compare opinions with people around them. In all four possible responses to the question about the sources of information on whether a product is organic, the average level of indications for women was higher than for men. This is particularly important given the current changes in consumption being intensified by the pandemic, with growing interest in ecoproducts and carefully packaged foods.

The research questions formulated were analysed, and certain conclusions drawn. In order to increase the level of sustainable consumption based on purchasing ecoproducts, entities should direct their message mainly to women, who are more likely to be attentive to labels, opinions about products, signs, and logos, and to analyse information on websites. It is also important to continuously raise awareness in this field.

This partially confirms previous observations that manufacturers of sustainable products should target educated young women who are eager to gather information about their sustainable purchases (Degli Esposti, Mortara, and Roberti, 2021), and companies should use specific labels (Brach, Walsh, and Shaw, 2018) and carefully give out information about the organic nature of their products. Women display higher awareness of “zero-waste” and pro-ecological social-media campaigns. Overall, those who perceive “zero waste” as a lifestyle include women, who are more observant (Bojanowska and Kulisz, 2020). It was also found that the Internet and the availability of the opinions of others are decisive factors in the decision to purchase organic products, and women more frequently declare that they take into consideration opinions of other Internet users while making decisions to buy organic products (Maciaszczyk and Kocot, 2021).

Further studies should investigate whether the global pandemic crisis will consolidate or modify these consumption trends, either in the long term or permanently. It is worth examining whether the three identified attitudes also characterise Polish consumers at the stage of making purchasing decisions regarding other products, such as cleaning agents, household appliances, consumer electronics, and computer equipment. It might prove useful to repeat the study at the post-pandemic stabilisation stage, to assess whether these trends are persisting, or whether they are merely reflecting the exceptional situation related to the SARS-CoV-2 pandemic.

References:

- Baranov, V.V., Cherdymova, E.I., Novikov, S.B., Lukina, E.V., Kazurov, O.A., Korzhanova, A.A., Ramin, A. Gurbanov, R.A. 2019. Student attitude to ethical consumption as new ecological practice, *Humanities & Social Sciences Reviews* eISSN: 2395-6518, Vol. 7, No 4, 1173-1179. doi.org/10.18510/hssr.2019.74160.
- Bojanowska, A., Kulisz, M. 2020. Polish Consumers' Response to Social Media EcoMarketing Techniques, *Sustainability*, vol. 12, nr 21, 1-19. doi.org/10.3390/su12218925.
- Boons, F., Browne, A., Burgess, M., Ehgartner, U., Hirth, S., Hodson, M., Holmes, H., Hoolohan, C., MacGregor, S., McMeekin, A. 2020. Covid-19, Changing Social Practices and the Transition to Sustainable Production and Consumption. Sustainable Consumption Institute: Manchester, UK.
- Baker, S.R., Farrokhnia, R., Meyer, S., Pagel, M., Yannelis, C. 2020. How Does Household Spending Respond to an Epidemic? Consumption during the 2020 COVID-19 Pandemic. *SSRN Electron J.*,10, 834-862.

- Brach, S., Walsh, G., Shaw, D. 2018, Sustainable consumption and third-party certified labels: Consumers' perceptions and reactions. *Eur. Manag. J.*, 36, 254-265.
- Cohen, M.J. 2020. Does the COVID-19 outbreak mark the onset of a sustainable consumption transition? *Sustain. Sci. Pract. Policy*, 16, 1-3.
- Czubała, A. 2011. Rola konsumentów w realizacji koncepcji społecznej odpowiedzialności przedsiębiorstw, *Konsumpcja i rozwój*, nr 1, 62.
- Degli Esposti, P., Mortara, A., Roberti, G. 2021. Sharing and Sustainable Consumption in the Era of COVID-19. *Sustainability*, 13, 1903. doi.org/10.3390/su13041903.
- Dunlap, R.E., Van Liere, K.D., Mertig, A.G., Jones, R.E. 2000. New trends in measuring environmental attitudes: measuring endorsement of the new ecological paradigm: a revised NEP scale. *Journal of social issues*, 56(3), 425-442. https://doi.org/10.1111/0022-4537.00176.
- Koch, J., Frommeyer, B., Schewe, G. 2020, Online Shopping Motives during the COVID-19 Pandemic-Lessons from the Crisis. *Sustainability*, 12, 10247.
- Kruskal, W.H., Wallis, W.A. 1952 Use of ranks in one-criterion variance analysis. *Journal of the American Statistical Association*, 47(260), 583-621.
- Kryk, B. 2011. Konsumpcja zrównoważona a proekologiczne style życia. *Studia i Materiały Polskiego Stowarzyszenia Zarządzania Wiedzą*, nr 51, 209.
- Lewicka-Strzałecka, A. 2006. *Odpowiedzialność moralna w życiu gospodarczym*. Wydawnictwo IFiS PAN, Warszawa.
- Luchs, M.G., Mooradian, T.A. 2011. Sex, Personality, and Sustainable Consumer Behaviour: Elucidating the Gender Effect. *J. Consum. Policy*, 35, 127-144.
- Maciaszczyk, M., Kocot, M. 2021. Behavior of Online Prosumers in Organic Product Market as Determinant of Sustainable Consumption, *Sustainability* vol. 13, nr 3, 1-14. doi.org/10.3390/su13031157.
- Mann, H.B., Whitney, D.R. 1947. On a Test of Whether one of Two Random Variables is Stochastically Larger than the Other. *Annals of Mathematical Statistics*, 18(1).
- Mazur-Wierzbička, E. 2015. Wpływ konsumentów na rozwój społecznej odpowiedzialności przedsiębiorstw. *Handel Wewnętrzny*, 4, 296-306.
- Pabian, A., Byłok, F., Rajczyk, J., Rajczyk, M. 2012. Sustainable Development of the European Union—Role of Sustainable Management i Creation of Future European Society. *International Journal of e- Education, e-Business, e-Management and e-Learning*, Vol. 2, No. 4, August.
- Shapiro, S.S., Wilk, M.B. 1965. An Analysis of Variance Test for Normality. *Biometrika*, Vol. 52, No. 3-4, 591-611.
- Wasilik, K. 2014. Trendy w zachowaniach współczesnych konsumentów—konsumpcjonizm a konsumpcja zrównoważona. *Konsumpcja i rozwój*, nr 1(6), 69.
- Włodarczyk, K. 2013. *Rynkowe zachowania polskich konsumentów w dobie globalizacji konsumpcji*, Wyd. AdamMarszałek, Toruń, 107.
- Zalejski, J., Faszczewska, K. 2012. Zachowania polskich konsumentów wobec produktów ekologicznych. *Economy and Management*, nr 3, 97-98.
- Zelezny, L.C., Chua, P.P., Aldrich, C. 2000. Elaborating on Gender Differences in Environmentalism. *J. Soc. Issues*, 56, 443-457.
- Żelazna A. 2013. *Społeczna odpowiedzialność w procesie gospodarowania a zrównoważona produkcja i konsumpcja*. Wydawnictwo Politechniki Lubelskiej, Lublin.