SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY ORGANIZATION AND MANAGEMENT SERIES NO. 194

2024

FORECASTS FOR GENERATIONAL BACKGROUND OF CONSUMER BEHAVIOR IN ECOLOGICAL AND ECONOMIC TERMS

Katarzyna SUKIENNIK^{1*}, Michał DZIADKIEWICZ²

 ¹ Politechnika Częstochowska, Wydział Zarządzania; katarzyna.sukiennik@pcz.pl, ORCID: 0000-0002-0195-7002
² Politechnika Częstochowska, Wydział Zarządzania; michal.dziadkiewicz@pcz.pl, ORCID: 0000-0001-5450-1669
* Correspondence author

Purpose: The basic purpose of the article was to determine the awareness of different generation groups in terms of ecological and economic aspects of life.

Design/methodology/approach: The article presents the theoretical framework of consumer behavior and the implemented pro-ecological activities of representatives of Generations X, Y, Z. Subsequently, social involvement in pro-ecological activities in the immediate vicinity was determined based on own research and exemplary results of international research.

Findings: The main hypothesis put forward is as follows: ecological and economic awareness is related to the age difference. The research indicates that there are differences in the consumer behavior of representatives of different generations in relation to environmental protection and the global energy crisis.

Research limitations/implications: The research confirmed the formulated hypothes. The financial possibilities of various social groups may indicate a different image of consumerism in the era of commonly required pro-ecological behavior.

Practical implications: The respondents showed great awareness and knowledge as well as commitment to pro-ecological activities, considering economic aspects.

Social implications: Contemporary promotion of pro-ecological activities leads to an increase in social awareness.

Originality/value: The analyzes of the conducted surveys emphasize the increasing awareness of pro-ecological and economic behavior of consumers in many countries and the need to adapt urban space to social and ecological requirements. Consumption leads primarily to an increase in production, which is an important factor of economic growth in the world markets.

Keywords: generations, pro-ecological initiatives, ecological and economic awareness, sustainable environment.

Category of the paper: Research paper.

1. Introduction

Global consumer behavior in many countries is very similar and oriented to care for the natural environment, which has been badly damaged through many years of neglect. Nowadays, it is necessary to minimize the negative impact on the natural environment (Heinonen, Strandvik, 2021, p. 109). Particular attention is paid to the use of energy resources and reduction in global consumerism (Lissitsa, Kol, 2016, p. 310). Pro-environmental activities among representatives of different age groups are noticeable (Chaney et al., 2017, pp. 179-189). An increasingly common phenomenon is increased care for the natural environment among representatives of the younger generation (Pencarelli et al., 2020, p. 245). As opposed to such actions one may place the awareness and views of representatives of the older generation, who, in addition to ecological considerations, also notice economic considerations (Gharzai, Beeler, Jagsi, 2020, p. 680). The conducted research allowed for creating a forecast for future consumer behavior considering ecological and economic behavior. The own research was carried out in the city of Częstochowa, Poland, among the residents of the Municipal Housing Authority, named ZGM TBS LLC. The survey was conducted to examine the awareness and social responsibility in terms of ecological and economic activities of the surveyed city dwellers. Among representatives of Generations X, Y, Z, there is a noticeable need to implement modern pro-ecological solutions in the immediate vicinity. Based on the research material obtained, future social behavior in terms of ecology and consumption in accordance with social responsibility was predicted.

2. Theoretical definition of the awareness of pro-ecological consumer behavior

When examining social and economic behavior, there are noticeable differences between representatives of different groups of generations. When presenting consumer behavior, it is necessary to refer to their definition. The consumer is defined as a consuming unit acting on the demand side and creating this demand (Sarraf, 2019, p. 46). From the economic point of view, consumer behavior is associated with the consumption process consisting in meeting social and economic needs (Zalega, 2012, p. 1). Consumer behavior is influenced by various factors, both dependent and independent of them (Hultman, Yeboah-Banin, Boso, 2019, p. 1186; Cranfield, 2020, pp. 153-154). Contemporary consumer behavior is more difficult to predict and currently more complex due to dynamic changes taking place in the environment. Factors influencing consumer behavior include external and internal factors (Fig. 1).



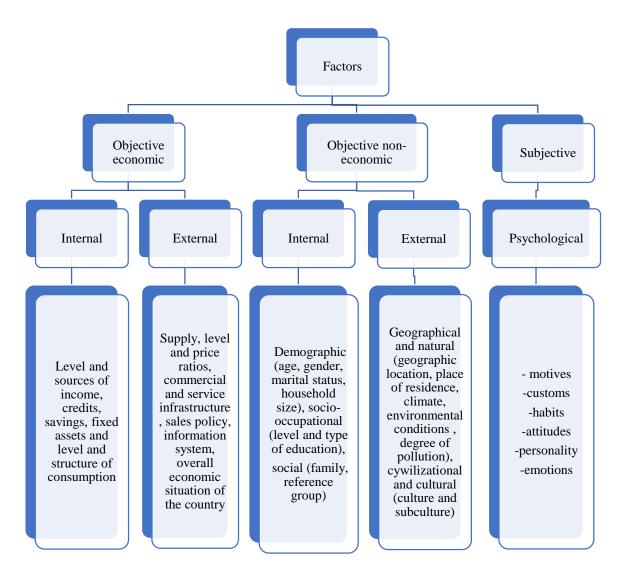
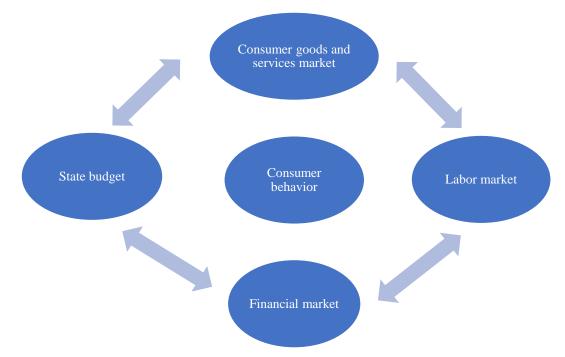
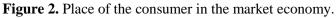


Figure 1. Factors shaping consumer behavior. Source: Study based on Kieżel, 2010, pp. 104-107.

Consumer behavior factors are divided into objective economic and non-economic as well as subjective. Subjective or psychological factors are all customs, habits, and attitudes of citizens. Economic factors primarily include financial resources possessed and the economic situation of the country. On the other hand, non-economic factors include demographic, and geographical and natural factors. The authors of the article focused on demographic factors, particularly the age of consumers. When characterizing consumer behavior in terms of age groups, a division into three generational groups called X, Y, Z was made (Kurz, Li, Vine, 2019, p. 230). Generation X are people born between 1965 and 1980. Representatives of Generation Y are people born in the years 1981-2000. On the other hand, people born since 2001 are representatives of Generation Z (Fazlagić, 2010, p. 63).

Each generation is guided by a different way of perceiving the world, paying attention to other factors, which in turn affects their choices and behavior (Tevšić, Nanić, 2020, p. 81). The consumer is a very important element in the market. As a participant, they influence, among others, the labor market, indirectly affecting unemployment, the market of goods and services, where they purchase products that allow for satisfying their needs, and the financial market and, indirectly, the state budget. It is due to the right attitude of consumers that the economy can function properly, develop and lead to economic growth. Therefore, the information provided and received from consumers is such an important economic factor (Fig. 2).





Source: Study based on: Daszkowska, Senyszyn, p. 40; Smyczek, Sowa, 2005, p. 25.

Environmental awareness is present among representatives of all generations, but many of them must also be guided by economic reasons (Hopkins, 2016, p. 155). Generational diversity on many levels among representatives of different generation groups allows for a broader view of ecological and economic choices in everyday life (Fernandes, Moreira, 2019, p. 278). Differences in views have always aroused great controversy and led to many discussions (Kroenke, 2015, p. 95). Wishing to study consumption behavior, it is necessary to characterize representatives of individual generations. Representatives of Generation X are attached to one job and very rarely show professional mobility. These people are also characterized by the need to have their own place on earth. When building a house or buying an apartment, they want to stay in it for the rest of their lives. They surround themselves with things that are to serve them for a long time, therefore this does not serve excessive consumerism (Reisenwitz, Iyer, 2009, p. 97) They respect the goods they have and are not too wasteful, because they remember the times when few goods were available.

Generations Y and Z show great commitment to shopping behavior, they are consumers who want to acquire as many modern gadgets as possible to mark their status and social prestige (Parment, 2013, p. 191; Kureshi, Thomas, 2020, p. 288). People who are representatives of Generation Y remember worse times, therefore they try to buy reasonably, but they often succumb to the temptation to buy. However, they are of a certain age and must manage their financial resources wisely. They care about energy resources and try to have a positive impact on the natural environment.

The youngest generation called Z are people born since 2001. It is predicted that these will be people with a very low level of loyalty to the employer (Nolan, 2015, p. 70). These people are demanding and focused on their own benefits, not paying attention to others. Millennials like to be surrounded by nature and appreciate similar attitudes in their environment. Generation Z are also ecological consumers. For Generation Z, care for the natural environment is very important. This is a generation that is very conscious, limits their negative impact on the environment and willingly engages in pro-ecological initiatives (https://noizz.pl/eko-generacja-z/xdjgl7t, 3.03.2023). Young people are not able to act on their own, their upbringing was done by planning time for them by their parents and rewarding them immediately after the task was completed (Ormerod, 2021, p. 114). Therefore, they continue such practices into adulthood.

Representatives of all generations have a different approach to life and professional work. Lifestyle and generational changes create many challenges for companies and additionally increase the need to shift demand in consumption activities (Hopkins, 2017, p. 380). However, pro-ecological attitudes are noticeable in activities throughout society.

3. Research review on the awareness of consumers of selected EU countries

The subject matter of the awareness of consumer behavior in the era of the climate and energy crisis relates primarily to the responsible management of available resources and their rational use. Increased consumption and lack of care for the natural environment have led to irreversible climate and socio-economic changes. The scale of changes taking place in the natural environment and their complexity are nowadays a problem that has never occurred before. The Intergovernmental Panel on Climate Change (IPCC) has pointed out that human activity is responsible for climate change, rapid warming of the planet and related environmental changes on Earth (www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf).

Many interesting studies have been carried out on this subject, and therefore it is worth quoting some of them. An interesting study is the research entitled "Społeczna odpowiedzialność konsumenta w dobie pandemii w Polsce i wybranych krajach UE. Implikacje dla biznesu (Social responsibility of the consumer in the era of the pandemic in Poland and

selected countries of the European Union. Implications for business)", which was carried out by ARC Rynek and Opinia dla Szkoły Głównej Handlowej, Katedry Badań Zachowań Konsumentów in October 2020. An important piece of information from the study is the perception of excessive consumerism by 58% of the surveyed Poles. Reducing the need to purchase new products and responsible management of water, gas and energy consumption is conscious behavior of modern consumers (Bushell et al., 2017, p. 45).

This study also includes information on the declarations of representatives of selected EU countries on the purchase of products from the production of their own country. Such an action also contributes to reducing the harmful impact on the environment, especially of transport (Pojani, Van Acker, Pojani, 2018, p. 218). Buying fewer imported products has a much better impact on the economy and the respondents' own financial resources (Fig. 3).

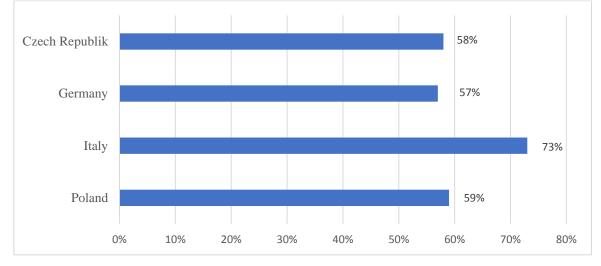


Figure 3. Consumer responsibility regarding the purchase of own products.

Source: Study on "Społeczna odpowiedzialność konsumenta w dobie pandemii w Polsce i wybranych krajach UE. Implikacje dla biznesu", conducted by ARC Rynek and Opinia dla Szkoły Głównej Handlowej, Katedry Badań Zachowań Konsumentów, October 2020. https://arc.com.pl/rosnie-swiadomosc-polskich-konsumentow/.

As shown in Figure 3, the most responsible consumers who care about their own production are Italians. Representatives of other countries are at a similar level, which proves that they pay attention to their own products but are not afraid to import the necessary goods.

In the study (www.arc.com.pl/rosnie-swiadomosc-polskich-konsumentow/, 23.03.2023), the awareness of Poles in terms of recycling (Chaturvedi, Kulshreshtha, Tripathi, 2020, p. 413) of products harmful to the environment was also indicated. Every third Pole (35%) admits that they pay more attention to whether cosmetic products have been tested on animals than before (Figure 4).

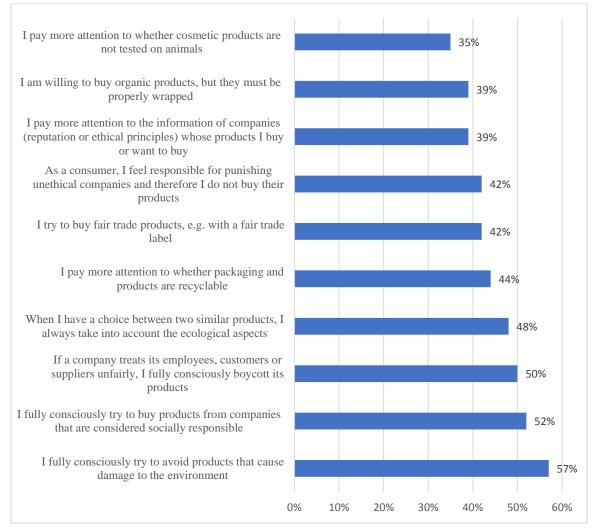


Figure 4. The topic of Poles as far as it concerns.

Source: Study on "Społeczna odpowiedzialność konsumenta w dobie pandemii w Polsce i wybranych krajach UE. Implikacje dla biznesu", conducted by ARC Rynek and Opinia dla Szkoły Głównej Handlowej, Katedry Badań Zachowań Konsumentów, October 2020.

Another interesting approach to analyze is the sequential model, which defines the psychological and socio-demographic variables predicting the risk of climate change. The model is tested and refined using data from large national surveys conducted among the residents of the countries such as Australia and France (more: Bradley et al., 2020, p. 101410).

The study conducted in 2000 by P. Crutzen and E. Stormer suggested that the whole world is changing due to irresponsible human activity affecting the climate and ecosystem (Crutzen, Stoermer, 2017). People born in 2020 are predicted to experience 6.8 times more heatwaves in their lifetime (Luten, Ryan, Wakefield, 2021).

Conducting continuous analyzes and investigating this topic allows for constant monitoring of the situation in terms of awareness of consumer behavior in the world. Changing consumer behavior is a long-term process and requiring high social and economic awareness (Shams et al., 2020, p. 9). Only the joint action of all people in the world will make it possible to stop some unfavorable environmental and economic changes.

4. Research methods

Based on the review of the literature, the hypotheses were formulated, which were supported by quantitative research. The main objective of the article was to analyze the awareness of various groups of consumer generations in terms of sustainable natural environment. The basis for the accomplishment of the objective was the main hypothesis: ecological and economic awareness is related to the age difference. To justify the main hypothesis, two sub-hypotheses were developed.

- H1. There is a relationship between pro-ecological activities and age.
- H2. Representatives of Generation X show greater economic awareness and less consumerism.

362 representatives of each characterized generational group took part in the study. The respondents were both women and men, working in the private and public sectors. For the purposes of the article, it was assumed that representatives of Generation X are people over 43 years of age, Generation Y are people between 23 and 42 years of age, while Generation Z are people under 22 years of age. The article presents only some of the respondents' answers, which significantly allow for determining their priorities and characteristics in the topic under consideration.

The measurement tool was the compiled paper questionnaire, which included closed, single and multiple-choice questions. The survey was divided into a main part and a list containing the following information: gender, age, education, and basic sources of income. In the study, the intensity of the respondents' attitudes was measured on a five-point ordinal scale. A Likert scale was used, in which the answers were classified in numerical and verbal values following the principle that the assigned values should increase in accordance with the nature and direction of the defined feature. A five-point scale was used to measure the significance of the statements, and the values were described in words and numbers: 5 - definitely significant; 4 - significant; 3 - insignificant; 2 - definitely insignificant; 1 - I have no opinion.

5. Analysis and conclusions from the research

The results of own research presented in this study are based on a quantitative study conducted using a questionnaire and partly an interview in a group of 362 respondents from the Częstochowa. The surveyed population was dominated by people from Generation X who constituted 52% of the respondents. The remaining part is representatives of Generation Y – 42%, and representatives of Generation Z, who accounted for 6% of the respondents (Figure 5).

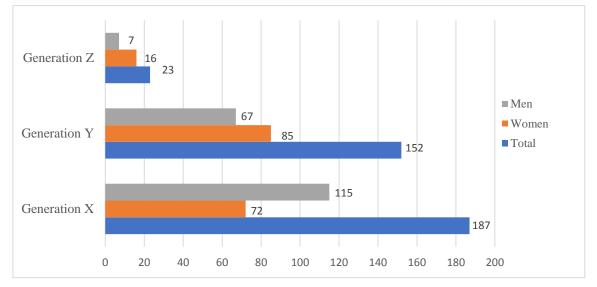
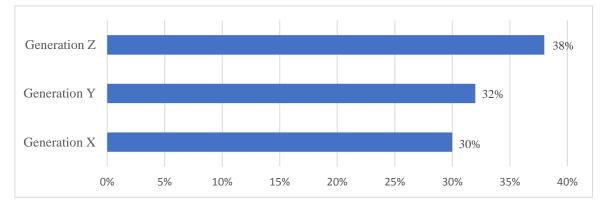
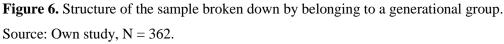


Figure 5. Structure of the sample broken down by the gender of the respondents. Source: Own study, N = 362.

The largest groups of respondents were representatives of Generations X and Y, they constituted 97%, while 6% of the respondents were representatives of Generation Z. Nevertheless, the results of the research indicate the attitudes of all generation groups.

Among the survey questions regarding the elements of social responsibility in the activities of ZGM TBS, the respondents considered raising the ecological awareness of residents as the most important (Fig. 6).





The data presented above indicate that the respondents from all generational groups equally considered it important to raise the ecological awareness of residents. This is very good news, because this proves the willingness of residents to expand their knowledge and the importance of implementing appropriate actions by ZGM TBS for its residents.

The following pro-ecological activities were specified in the study:

- placing bird feeders, nesting boxes, insect houses in the space of the cooperative,
- creating flower meadows, ponds, rain gardens, gardens with ecological education, green walls, green roofs, waste bin shelters,
- planting new trees and shrubs,
- creating leisure routes,
- installing rainwater tanks, photovoltaic panels on roofs, heat pumps for buildings, antismog ventilators, LED lighting,
- creating white roofs.

Among the above-mentioned activities, the division was made according to two criteria, the first being the construction of facilities affecting contact with nature, the second referring to ecological activities affecting savings. The breakdown is shown below. Among representatives of Generation X, the most important activities in the first criterion relating to contact with nature were as follows (Figure 7):

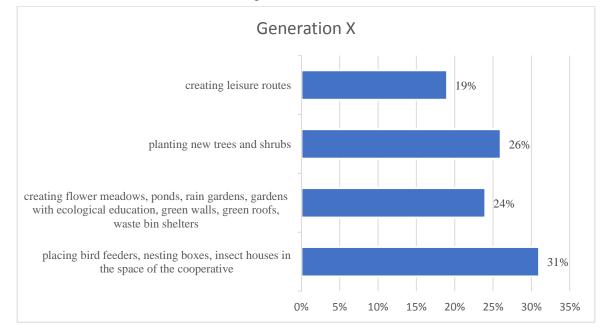


Figure 7. Structure of responses given by representatives of Generation X in terms of pro-ecological activities.

Source: Own study, N = 362.

The most important activity for representatives of Generation X is to place bird feeders, nesting boxes, and insect houses in the space of the cooperative.

Among representatives of Generation Y, the most important activities in the first criterion relating to contact with nature were as follows (Figure 8):

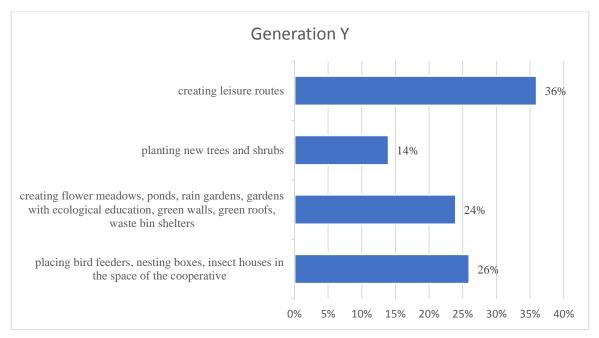


Figure 8. Structure of responses given by representatives of Generation Y in terms of pro-ecological activities.

Source: Own study, N = 362.

For representatives of Generation Y, the most important is to create leisure routes -36% that allow contact with nature.

On the other hand, among representatives of Generation Z, the most important activities in the first criterion are (Figure 9):

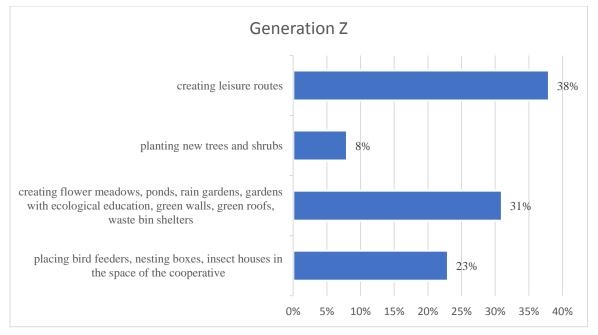


Figure 9. Structure of responses given by representatives of Generation Z in terms of pro-ecological activities.

Source: Own study, N = 362.

Also, for Generation Z, leisure routes account for the largest percentage of responses. The research indicates that representatives of all generational groups are very aware of the need to adapt urban space to closer contact with the natural environment. Therefore, many changes should be made to care for the environment as much as possible and not to lead to its degradation.

Obviously, not less important, the second criterion of activities relating to saving focuses on installing rainwater tanks, photovoltaic panels on roofs, heat pumps for buildings, anti-smog ventilators, LED lighting and creating white roofs. All groups of respondents consider these activities to be very important. Representatives of Generation X considered photovoltaic panels to be the most important, which will significantly allow for saving electricity. Representatives of the youngest generation decided that the installation of heat pumps will be the most important. According to the research, all respondents consciously approach saving available resources. When comparing the conducted surveys to the international studies indicated in the article, a significant relationship between the implementation of pro-ecological and economic activities and the awareness of consumer behavior can be seen. Nowadays, more and more attention is paid to the topic of sustainable use of available resources and minimizing the adverse socio-economic impact on the natural environment. All conducted studies clearly indicate the need to introduce changes in the ecological awareness of societies around the world. Global opportunities to influence the natural environment can help to slow down climate change. It is predicted that the increasing ecological and economic awareness may bring only positive effects in many areas of life.

6. Conclusions

Summing up the perception of the behavior of consumers representing different generations, one can notice the significant awareness in pro-ecological activities. The hypotheses put forward in the article have been proven by analyzing the obtained research results. The conclusions drawn from the analysis are:

The financial possibilities of various social groups may indicate the image of consumerism in the era of commonly required pro-ecological behavior. Numerous examples of such behavior analyzed for the purposes of the article.

Indicate that the development of urban space through the creation of ecosystems meets the approval of the community. The emergence of new ecological leisure places, taking into account small financial outlays, affects both consumerism and ecological and economic social behavior.

Following a few simple rules reducing excessive consumerism is also required today and serves the entire society. Pro-ecological solutions contributing to the improvement in residents' lives were indicated during the analyzes of the surveys.

Summing up the information presented in the article, it can be said that initiatives for the benefit of implementation of pro-ecological and economic solutions have been subject to discussions for many years and this is a very useful action that significantly affects the change in consumer behavior. These activities should be used as often as possible to ensure the reduction in costs of economic and social life, while increasing environmental awareness. The implementation of such solutions is very important socially and ecologically due to the improvement in the quality of life, especially in urban areas.

References

- 1. Bradley, G.L., Babutsidze, Z., Chai, A., Reser, J.P. (2020). The role of climate change risk perception, response efficacy, and psychological adaptation in pro-environmental behavior: A two nation study. *Journal of Environmental Psychology*, 68.
- 2. Bushell, S., Buisson, G.S., Workman, M., Colley, T. (2017). Strategic narratives in climate change: Towards a unifying narrative to address the action gap on climate change. *Energy Research Social Science*.
- 3. Chaney, D., Touzani, M., Ben Slimane, K. (2017). Marketing to the (new) generations: Summary and perspectives. *Journal of Strategic Marketing*, 25(3).
- 4. Chaturvedi, P., Kulshreshtha, K., Tripathi, V. (2020). *Investigating the determinants of behavioral intentions of generation Z for recycled clothing: An evidence from a developing economy*. Young Consumer.
- 5. Cranfield, J.A.L. (2020). Framing consumer food demand responses in a viral pandemic. *Can. J. Agric. Econ. Can. Agroecon, Vol.* 68.
- 6. Crutzen, P., Stoermer, E. (2017). The Anthropocene (2000). In: *The Future of Nature*. Yale University Press, https://doi.org/10.12987/9780300188479-041.
- 7. Fazlagić, J. (2010). Szczególne zjawisko. Pokolenie Y wyzwaniem dla pracodawców. *Personel i Zarządzanie*.
- 8. Fernandes, T., Moreira, M. (2019). Consumer brand engagement, satisfaction and brand loyalty: a comparative study between functional and emotional brand relationships. *Journal of Product & Brand Management, Vol. 28, No. 2.*
- Gharzai, L.A., Beeler, W.H., Jagsi, R., (2020). Playing into stereotypes: engaging millennials and generation Z in the COVID-19 pandemic response. *Advances in Radiation Oncology, Vol. 5, No. 4.*

- 10. Heinonen, K., Strandvik, T. (2021). Reframing service innovation: COVID-19 as a catalyst for imposed service innovation. *Journal of Service Management, Vol. 32, No. 1*.
- 11. Hopkins, D. (2016). Can environmental awareness explain declining preference for carbased mobility amongst generation Y? A qualitative examination of learn to drive behaviours. *Transportation Research Part A: Policy and Practice*.
- 12. Hopkins, D. (2017). Destabilising automobility? The emergent mobilities of generation Y. *Ambio*, 46(3).
- 13. https://noizz.pl/eko-generacja-z/xdjgl7t, 3.03.2023.
- Hultman, M., Yeboah-Banin, A.A., Boso, N. (2019). Linking improvisational behaviour to customer satisfaction: The relational dynamics. *Journal of Business and Industrial Marketing*, 34(6).
- 15. IPCC (2021). *Climate Change 2021: The Physical Science Basis*, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf, 7 June 2022.
- 16. Kroenke, A. (2015). Pokolenie X, Y, Z w organizacji. Zeszyty Naukowe Politechniki Łódzkiej. Organizacja i Zarządzanie, no. 1202.
- 17. Kureshi, S., Thomas, S. (2020). Testing the influence of message framing, donation magnitude, and product category in a cause-related marketing context. *Journal of Marketing Communications, Vol. 26, No. 3*.
- 18. Kurz, C.J., Li, G., Vine, D.J. (2019). *Are millennials different?* Handbook of US Consumer Economics. Academic Press Cambridge.
- 19. Lissitsa, S., Kol, O. (2016). *Generation X vs. Generation Y A decade of online shopping*. Journal Retailer Consumer Service.
- 20. Luten, S., Ryan, E., Wakefield, J. (2021). Born into the Climate Crisis: Why we must act now to secure children's rights.
- 21. Nolan, L.S. (2015). The Roar of Millennials: Retaining Top Talent in the Workplace. *Journal of Leadership, Accountability and Ethics, vol. 12(5).*
- 22. Ormerod, K. (2021). New season, old clothes. Harper's Bazaar, Vol. 3689.
- 23. Parment, A. (2013). Generation Y vs. Baby Boomers: Shopping behavior, buyer involvement and implications for retailing. *Journal of Retailing and Consumer Services*, 20(2).
- 24. Pencarelli, T., Ali Taha, V., Škerháková, V., Valentiny, T., Fedorko, R. (2020). Luxury Products and Sustainability Issues from the Perspective of Young Italian Consumers. *Sustainability*.
- 25. Pojani, E., Van Acker, V., Pojani, D. (2018). Cars as a status symbol: Youth attitudes toward sustainable transport in a post-socialist city. *Transp. Res. Part F, Traffic Psychology Behaviour*.
- 26. Reisenwitz, T.H., Iyer, R. (2009). Differences in Generation X and Generation Y: implications for the organization and marketers. *Marketing Management Journal*.

- 27. Sarraf, A.R.A. (2019). Generational Groups in Different Countries. *International Journal* of Social Sciences & Humanities, Vol. 4, No. 1.
- 28. Shams, G., Rehman, M., Samad, S., Oikarinen, E. (2020). Exploring customer's mobile banking experiences and expectations among generations X, Y and Z. *Journal of Financial Services Marketing*, 25(1-2).
- 29. Tevšić D., Nanić A. (2020). Research of gender-based behavioural differences in the purchasing decision-making process. *Economic Review Journal of Economics and Business, Vol. 18, No. 1.*
- 30. www.arc.com.pl/rosnie-swiadomosc-polskich-konsumentow/, 23.03.2023.
- 31. Zalega, T. (2012). Konsumpcja, Determinanty, Teorie, Modele. Warszawa: PWE.