

INFORMATION BEHAVIOURS OF YOUNG ADULTS IN THE AREA OF ENVIRONMENTAL PROTECTION ACTIVITIES – A PILOT STUDY

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Purpose: Analysing the information behaviour of young adults in the field of environmental action and looking for implications for improving communication in this area.

Design/methodology/approach: 1) A literature review on the information behaviour of young adults and their attitudes and behaviour in the area of environmental care. 2) Qualitative research carried out using an online survey sheet. The respondents - students at two Krakow-based universities (540 completed questionnaires). An analysis of tables multi-divisional tables with different cross-sections.

Findings: Young adults say that their lifestyles are environmentally friendly despite not engaging in the environmental activities mentioned in this paper. They are also not interested in expanding their knowledge in this area with the help of environmental organisations. The study found that nearly half of the respondents (48.9%) never look at the social media profiles of pro-environmental organisations, and only 5.9 systematically look at the websites of these organisations (47.2% never go there). They believe that their style is environmentally friendly ('definitely yes' – 5.4 % and 'rather yes' – 44.3 %), although, for example, almost 70 % of respondents have never supported such an initiative with a financial contribution. And nearly 60 % have never taken part in an environmental demonstration.

Research limitations/implications: The research involved young adults studying at universities, which naturally limits the generalisation of conclusions drawn to the entire population of this group of young people. The next stage should extend the research to groups not yet represented in the described research process.

Practical implications: It is necessary to facilitate collecting and verifying information on human impact on the environment and develop programmes to improve young adults' knowledge of methods of caring for environmental well-being.

Social implications: Supporting young adults in seeking, selecting, assessing and learning about the principles of supporting the environment will ultimately result in an improved environment.

Originality/value: Analysing the information behaviour of young adults from universities in Kraków in environmental action and contrasting it with their chosen behaviours from this area. Identifying implications for educational educators to help develop the information behaviour of young adults and help increase their involvement in environmental action.

Keywords: information behaviours, environmental protection, young adults.

Category of the paper: research paper.

1. Introduction

The need to engage in pro-environmental behaviour is becoming more and more natural in modern societies. More and more people declare that they would like to do something for the good of the environment. For example, respondents of the research presented in this paper mostly believe (63.1%) that pro-environmental activities are necessary in today's climate situation. At the same time, it is noticeable that most of us find it difficult to assess how specific human behaviour affects the environment daily. Choosing the more environmentally friendly option requires specialised knowledge, e.g., the composition of the products we buy, the technological processes used to manufacture them and the possibility of recycling them afterwards. A knowledge that everyone should learn to reach for on their own. Educational programmes implemented on a mass scale will be very helpful but will not solve the problem. Everyday consumer decisions involve many issues, and market participants need quick access to information on different topics. The ability to correctly identify and verify information sources should be developed in every member of society to use them independently, intuitively and safely.

The discussion presented here aims to analyse the information behaviour of young adults in the area of environmental concern and to look for implications for improving communication in this area.

The starting point of the research process was a literature review on the information behaviour of young adults and their attitudes and behaviour in the area of environmental concern. The basis for the inference was a qualitative study conducted using an online survey sheet (Google Forms). The survey covered students at two universities in Kraków, from whom 540 completed questionnaires were obtained. The collected data was analysed using multi-divisional tables with different cross-sections.

2. Literature review

Access to information, skilful verification of its reliability and professional management is the basis for functioning in today's market reality (Kolbusz, 1993; Gregor, Kalicińska-Kula, 2014). Knowing information behaviour allows you to get the right message across more quickly to stakeholders and to maintain constant contact with them, enabling you to influence their attitudes and behaviour and analyse the results of these actions (Groff, Jones, 2014; Włodarkiewicz-Klimek, 2016). In contemporary terms, information behaviour encompasses the various activities of seeking and generating information. It also includes the factors influencing these processes and their results (more comprehensive in Rogala, 2017). Since the state of

knowledge about the possibilities of satisfying needs strongly influences the market decisions of buyers, bidders of goods and services systematically analyse the information behaviour of other market participants (Davenport, Prusak, 1998). The continuous development of ways and tools of communication and the potential readiness to use them in society influences the development of information competencies of market participants and necessitates their systematic study. Therefore, it becomes natural to constantly update the results of this research to isolate changes in preferences in the choice of information sources and communication tools. It becomes crucial in an era of information oversupply when many messages mean that some of them go unnoticed (Kaczmarek, Walczak, 2009). And the large amount of information makes verifying their credibility impossible. Selecting the channels used and optimising the content communicated is necessary (Dawson, 2014). Through these processes, it is possible to increase the effectiveness of information flows.

Young adults are very proficient in the online environment and find the information they need relatively quickly. However, they rarely ask questions about the reliability of the information they find. Some researchers note, however, that young people often tend to uncritically reproduce the information they obtain, which creates the danger of spreading opinions and advice that are not in line with ecological principles (Mooradian et al., 2006). In today's reality, analysing the reliability of information sources is becoming a key competence for all market users (Kotler et al., 2021). Consumers' decision-making is significantly influenced by the knowledge stored in their memory (Brucks, 1985; Hristov, Kuhar, 2015).

An important question becomes whether and how young adults are increasing their knowledge of the impact of their attitudes and behaviour on the environment. Understanding these processes will make it possible to create an information system to equip people with the knowledge to disseminate pro-environmental behaviour and avoid the duplication of environmentally damaging information (Budzanowska, Proszowska, 2022). However, the different nature of individual market decisions also makes the need for information different. Sometimes information is objective and quantitative, associated mainly with data, while at other times the term is understood as subjective and qualitative (Madden, 2014).

Web browsing can serve functional and recreational purposes (Xia, 2010). Experience and knowledge gained from browsing influence decision-making and subsequent online information behaviour (Xia, 2010). The popularity of online communication and sales channels is perceived as facilitating these processes and increasing the level of uncertainty accompanying them. (Chiou et al., 2017). The problem for Internet users is that too many sources of information are contained therein (Broilo et al., 2016). The website's credibility and data quality are significant for business-to-business (B2B) customers. They expect information confirming a website's trustworthiness and a supportive service when using it (McLean, 2017). Information demand is growing in the face of aggregate market uncertainty (Geiger et al., 2022). Asynchronous social search, the search for information by a group of collaborators acting non-

concurrently, is also trendy. They independently collect information and immediately verify its relevance, which helps to reduce information overload in the system (Buijs, Spruit, 2017).

The importance of credibility for a positive image of online services is also highlighted by research (Hoffman et al., 1998; Grant, Waite, 2003). Some industries, such as tourism, already have procedures for collecting, systematising and verifying offer information (Almeida-Santana et al., 2020). Wealthier and better-educated people are more likely to use online sources of information and are more likely to share them using sharing economy platforms (Almeida-Santana et al., 2020).

The process of obtaining information from the Internet is significantly influenced by the involvement of this channel in the implementation of advertising campaigns (Klein et al., 2020).

The global climate situation makes environmental concerns the focus of many studies and programmes, and young adults, as the future beneficiaries of these measures, are the subject of them (Lisowski et al., 2021). Some studies confirm that the state of the environment is essential for young adults, and, at a declarative level, they are willing to engage in action to protect it (Bernaciak et al., 2021; Sun et al., 2022). However, everyday market decisions are often very complex and making pro-environmental choices requires knowledge of the subject (Khan et al., 2021). A detailed analysis of the mechanism of these decisions will make it possible to determine the natural willingness of young adults to engage financially and organisationally in environmental action (Beatson et al., 2020). Altaher (2013) noted that girls are likelier to have higher environmental awareness and willingness to develop it.

Young adults are aware that the costs of environmental degradation will inevitably be borne by younger generations (Lisowski et al., 2022). They are, therefore, willing to get financially involved in environmental projects, mainly if they affect their local community (Wu et al., 2018; Dardanoni, Guerriero, 2021). However, the oversupply of information and the lack of tools to verify it means that they do not have sufficient knowledge to engage in environmental action more widely (Johnstone, Tan, 2015). It was therefore considered essential to analyse the information behaviour of young adults in this area.

3. Methodology of the research process

The presented results are a piece of a broader study on the pro-environmental behaviour of young adults, conducted among students at the Cracow University of Economics and the AGH University of Cracow on a sample of 540 respondents. (Lisowski et al., 2022). The research used an online questionnaire made available to respondents via Google Forms between 15.12.2021 and 30.01.2022. The survey research was preceded by focus interviews with selected groups of students, which were used to develop the actual research questionnaire.

The central survey was preceded by a pilot study, which made it possible to verify the correctness of the prepared questionnaire.

In the process of analysing the results, the analysis of multivariate tables in different cross-sections using Pearson's Chi-square statistic and Cramer's V coefficient was used, which made it possible to extract statistically significant relationships between selected the surveyed variables and to create strategic implications for those who wish to influence the attitudes and pro-environmental behaviour of young adults (the relationships identified are presented in the paper (Lisowski et al., 2022); this material is a continuation of the analysis cited).

In the sample population, almost 55% were women, and the remaining respondents were men. Undergraduate students were the most numerous group (51.30%), engineering students accounted for 43.15% and master's students for 5.55%. They were mainly full-time students (76.11% of respondents). Almost 85% of them were born after 2000. Most respondents were dependent on their parents (70.93%). 29.26% lived in towns with up to 5,000 inhabitants, 52.22% of respondents lived in towns with more than 50,000 inhabitants, and 18.52% lived in other cities. They most often lived in rented accommodation (45.18% of respondents). The paper (Lisowski et al., 2022) includes detailed characteristics of the surveyed population.

4. Research results and discussion

The main aim of the research was to identify and analyse selected information behaviour of young adults in environmental activities. The specific area of research interest was primarily to determine whether respondents use information distributed by pro-environmental organisations and whether this translates into their involvement in activities in the form of participation in environmental demonstrations or financial support for initiatives of this kind. In this context, it was also an interesting research problem to find out how the respondents assess their attitudes towards the environment and what information behaviours they implement to develop themselves in this area. The distribution of respondents' answers is included in Table 1 and Table 2.

The respondents claim (Table 1) that their lifestyle is relatively environmentally friendly. At the same time, juxtaposing information about their relatively low interest in knowledge distributed via the Internet by pro-environmental organisations, it can be presumed that this conviction is not supported by too much activity to broaden environmental knowledge. Only a few per cent of the surveyed respondents declare systematic browsing of such websites and portals. Pro-environmental organisations' actions in social media are more likely to be monitored by women born after 2000.

Table 1.

Distribution of respondents' answers on their information behaviour in the area of environmental activities

Do you think your current lifestyle can be considered environmentally friendly?							
Rather not		Sometimes yes and sometimes no		Rather yes		Definitely yes	
Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications
34	6.30%	238	44.07%	239	44.26%	29	5.37%
Do you monitor the activity of pro-environmental organisations (individuals) on social media?							
No, I never look in		Yes, I observe a few		Yes, I watch and actively comment on their posts		Yes, and I also run a social media channel	
Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications
264	48.89%	266	49.26%	9	1.67%	1	0.18%
Do you monitor the websites of pro-environmental organisations or individuals working on this issue?							
No, I never look at such websites		Sometimes I go to them		Yes, I systematically check several of them			
Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications		
255	47.22%	256	47.41%	29	5.37%		

Source: own research.

Among those convinced that their lifestyle is environmentally friendly (answers "yes" and "rather yes"), 45.15% do not look at the profiles of pro-environmental organisations (persons) on social media at all, 47.76% do not monitor the activity of pro-environmental organisations (persons) in social media at all. One wonders where they get the information that supports them in developing their declared attitudes.

The young adult generation is very active on the Internet (Gao et al., 2022; Ågren et al., 2023; Lopez-Fernandez et al., 2023). However, pro-environmental organisations do not seem to notice this and are not using the full potential of online tools to connect with their audiences. Attracting Internet users to this topic through edutainment activities (including gamification) would help to keep recipients in this thematic area and encourage them to develop their knowledge on the subject (Chermakani et al., 2023). Pro-environmental organisations are mainly NGOs without significant support from governmental bodies. The observed negative climate change makes it increasingly urgent for this topic to be a more common theme in the activities of countries and organisations.

The next stage of the analysis was to collate the respondents' opinions on the friendliness of their style towards the natural environment and their realisation of specific actions that would give credence to these opinions. It turned out (Table 2, Table 3) that the surveyed respondents hardly take part in demonstrations in support of the environment (59.63% do not do so, and it would never occur to them to do so) and do not financially support such initiatives (68.70% of respondents never allocate their money to this). They are only interested in the ecological dimension of the production process of the products they buy, "by the way" (Table 5). Men most often notice this information but do not take it into account, while women find it pleasant when the chosen product "is organic", but it is not necessary for them.

Table 2.

Distribution of respondents' answers to the question, 'Do you participate in marches and demonstrations in support of the natural environment?'

Listing	Do you participate in marches and demonstrations in support of the natural environment?									
	No, it never crossed my mind.		No, but I insert positive comments, e.g. under such information on social media.		I had planned to participate, but I have a lot of other activities and have been unable to make it happen.		I have taken part (a few times at most) and more for the company than out of any real need to manifest my views.		Yes, I often take part in such demonstrations.	
	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications
sum	322	59.63%	107	19.82%	78	14.44%	19	3.52%	14	2.59%
1	18	62.07%	3	10.34%	5	17.24%	1	3.45	2	6.90%
2	142	59.41%	50	20.92%	34	14.23%	6	2.51	7	2.93%
3	136	57.14%	53	22.27%	35	14.71%	6	2.52	8	3.36%
4	26	76.47%	1	2.94%	4	11.77%	1	2.94	2	5.88%

Due to volume constraints, the first column uses a symbolic notation of information: it lists the categories within the respondents' answers to the question "Do you think your current lifestyle can be considered environmentally friendly?": 1 - definitely yes; 2 - rather yes; 3 - sometimes yes and sometimes no; 4 - rather no. The percentage of indications shows the percentage distribution of values in the rows.

Source: own research.

Table 3.

Distribution of respondents' answers to the question, 'Do you engage financially in pro-environmental activities?'

Listing	Do you engage financially in pro-environmental activities?							
	No, I never donate my money to such causes		I donate sporadically during direct can collections		Yes, from time to time, I financially support actions that I consider important		Yes, I very often (even systematically) contribute to environmental actions and activities	
	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications
sum	371	68.70%	106	19.63%	60	11.11%	3	0.56%
1	14	48.28%	6	20.69%	9	31.03%	0	0
2	154	64.44%	50	20.92%	33	13.89%	2	0.84%
3	175	73.53%	46	19.33%	16	6.72%	1	0.42%
4	28	82.35%	4	11.77%	2	5.88%	0	0

Due to volume constraints, the first column uses a symbolic notation of information: it lists the categories within the respondents' answers to the question "Do you think your current lifestyle can be considered environmentally friendly?": 1 - definitely yes; 2 - rather yes; 3 - sometimes yes and sometimes no; 4 - rather no. The percentage of indications shows the percentage distribution of values in the rows.

Source: own research.

The only activity out of those mentioned in which they engage more than average (more than 80% of respondents collect sometimes or more often) is collecting plastic bottle caps (Table 4). Women and residents of medium-sized cities are more willing to collect plastic bottle caps.

Table 4.

Distribution of respondents' answers to the question, 'Do you collect plastic bottle caps?'

Do you collect plastic bottle caps?								
Listing	I haven't heard you can collect them and do something with them afterwards.		I have heard about this action but don't want to collect them.		Yes, sometimes I try to remember not to throw them away but to collect them.		Yes, I collect all used plastic caps.	
	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications
sum	10	1.85%	77	14.26%	241	44.63%	212	39.26%
1	0	0	7	24.14%	7	24.14%	15	51.72%
2	2	0.84%	26	10.88%	108	45.19%	103	43.09%
3	8	3.36%	33	13.87%	110	46.22%	87	36.55%
4	0	0	11	32.35%	16	47.06%	7	20.59%

Due to volume constraints, the first column uses a symbolic notation of information: it lists the categories within the respondents' answers to the question "Do you think your current lifestyle can be considered environmentally friendly?": 1 - definitely yes; 2 - rather yes; 3 - sometimes yes and sometimes no; 4 - rather no. The percentage of indications shows the percentage distribution of values in the rows.

Source: own research.

Table 5.

Distribution of respondents' answers to the question, 'Are you guided in your purchasing decisions by the manufacturers' ecological approach to the production process?'

Are you guided in your purchasing decisions by the manufacturers' ecological approach to the production process?										
Listing	I don't notice such signs, and I never take them into account.		I note the existence of such information and designations, but I do not take them into account.		I see such information, and it is nice when I shop for 'organic' products, but it is unnecessary.		Only for nutritional products because this directly affects my health.		Yes, I am always looking for such information, and the lack of it causes me to abandon the purchase.	
	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications	Number of answers	% of indications
sum	88	16.30%	111	20.55%	218	40.37%	102	18.89%	21	3.89%
1	4	13.79%	7	24.14%	8	27.59%	3	10.34%	7	24.14%
2	34	14.23%	41	17.16%	104	43.51%	54	22.59%	6	2.51%
3	40	16.81%	56	23.53%	92	38.65%	42	17.65%	8	3.36%
4	10	29.41%	7	20.59%	14	41.18%	3	8.82%	0	0

Due to volume constraints, the first column uses a symbolic notation of information: it lists the categories within the respondents' answers to the question "Do you think your current lifestyle can be considered environmentally friendly?": 1 - definitely yes; 2 - rather yes; 3 - sometimes yes and sometimes no; 4 - rather no. The percentage of indications shows the percentage distribution of values in the rows.

Source: own research.

As part of a more precise analysis of the information behaviour of young adults, the attitudes and behaviour of young adults convinced that their current lifestyle could be considered environmentally friendly ("rather yes" and "yes" answers) were analysed. There were 268 people in this group (236 people, or 44.26% of respondents - "rather yes" answers; 29 people, or 5.37% of respondents - "yes" answers). Activities requiring organisational or

financial commitment to the environment (participation in manifestations, contributions to this cause) are not popular among young adults (Table 2, Table 3). They never participate in demonstrations of this kind 59.70% of this group and 62.68% of them never contribute to a cause of this kind. Their "environmental friendliness" is expressed in occasional activities that do not require much commitment. They are only convinced to collect bottle tops (Table 4) because shopping may or may not be 'bio' (Table 5). In this context, this "pro-environmental lifestyle" can be seen more as a good-sounding declaration than an actual commitment in this area. Unfortunately, even less interest is in the mentioned environmental activities among those who do not declare an environmentally friendly lifestyle (Table 2-5).

Obviously, the presented summary is only a selection of information on the attitudes and behaviours of respondents. Still, it crucial signals that environmental concern is uncommon among young adults. It is more of a fashionable declaration than actual activity. Young adults do not seek information on this subject, i.e. they are not quite ready to make conscious decisions in this area and for these decisions to benefit society. It would be further confirmed by the fact that the same study also found that respondents save electricity and water primarily for financial rather than environmental reasons.

5. Conclusions

The most relevant to the future state of the environment are the attitudes and behaviours of young adults who are just entering adulthood and will be making critical decisions about the state of the environment in the future. The subject of the research described in this publication was to determine to what extent young adults consider their life activity to be pro-environmental and how they seek information that will help make pro-environmental decisions. The analysis of the behaviour of young adults made it possible to assume that the Internet is the space where they will look for the information they need to make pro-environmental decisions. Therefore, the analysis covered the behaviour of young adults related to this market area.

The study found that nearly half of the respondents (48.9%) never look at the social media profiles of pro-environmental organisations. On the other hand, when it comes to the websites of these organisations, only 5.9% systematically look at them, and 47.2% never go there. At the same time, the same group believes that their style is environmentally friendly ('definitely yes' - 5.4% and 'rather yes' - 44.3%). However, almost 70 % have never financially contributed to such an initiative. And nearly 60 % of this group have never participated in an environmental demonstration.

In summary, the juxtaposition of the results of the research of selected opinions, attitudes and behaviours in the area of pro-environmental actions indicates the urgent need to monitor the information behaviour of young adults and educational activities among this group to

increase their activity in searching for information that will help make their actions more beneficial to the environment. A higher level of knowledge on the subject among market participants should also contribute to reducing the popularity of greenwashing.

The research described is a pilot study. It covered young adults studying at universities, which naturally limits the generalisation of the conclusions drawn to the entire population of this group of young people. The next step should be to extend the research to groups not yet represented in the described research process.

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