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Determinants of purchasing choices on the Polish cosmetics market in the light of the concepts of sustainable development and circular economy

Introduction

The purpose of this article is to examine to what degree discussion in the media and at conferences and seminars, and new EU regulations related to sustainable development and circular economy affect consumer decisions while choosing products. In the research section, the cosmetics industry was chosen as a basis for analysis. In particular, the study seeks to determine:

- whether purchasing choices in the cosmetics industry are determined by sex?
- to what degree purchasing decisions are affected by the age, education and place of residence of the consumer?
- whether the purchasing choices of consumers will be able to influence the actions of businesses as regards implementing sustainable strategies?

The article uses the results of a representative nationwide study¹ aimed at diagnosing the behaviours of consumers faced with major external challenges and developing a social and educational campaign entitled “Opakowanie w sam raz” (The perfect packaging) on choosing products whose packaging size matches the product’s size and of which the packaging itself is recyclable. The study focuses on a broad range of cosmetic products because findings show that in the case of cosmetic products the size of both external and direct packaging often does not match the contents.

Factors determining sustainable development

The discussion currently in progress among economists is related mainly to blazing a new development path in the context of the mounting climate and energy crisis that is contributing to the worldwide economic crisis. Issues related to waste management are becoming an increasingly prominent environmental problem. The linear approach to economy led to the overexploitation of the environment and its resources and, in some communities, deepened the income gap between the richest and poorest regions of the world. The linear economy idea is focused mainly on the make-take-dispose model [Diaz-Lopez et al. 2021:6–7]. This means that resources (exploited without any restraints) are used as a basis for producing goods that, once used up, are thrown away as waste. The product life cycle gets shorter, because in this system value is created by maximising production and sales [Dieguez 2020:1]. In addition, waste that is not used in subsequent processes is already accumulating by the production stage. This sort of economy and the marketing subordinated to it drives a consumption approach, summarised as “more”, “forward” and “up” [Raworth 2021:37–44].

An alternative approach is circular economy, also called a closed loop economy (CLE), which is directly aligned with the Sustainable Development Goals (SDG) announced as part of UN Agenda

2030 (www.un.org.pl) and the new EU sustainable finance regulation adopted in 2018. In particular, issues related to CLE have been mentioned in goals 9 (Innovation, industry, infrastructure) and 12 (Responsible consumption and production). The idea of circular economy is to minimise the use of resources while minimising waste [www.gozwpraktyce.pl]. At the same time, it is assumed that once produced, a product or its components may be reused and are highly suitable for recycling. The core CLE concept can be expressed as reduce, reuse, recycle. Hence, in contrast with linear economy, this approach focuses on long-term use of the product, economy of sharing, replacing natural resources whose deposits run out with others which are also suitable for recycling, and taking care to minimise and use any waste that is generated [Roleders et al. 2022]. In the SDG model, it is necessary to combine economic, environmental and social issues. This is supported by sustainable supply chains in which the decisions made are underpinned by the issues of profitability and reduced impact on the environment [Carter, Rogers 2008; Gimenez et al. 2012; Centobelli et al. 2017].

In the face of the growing backlash caused by destruction of the environment and the global crisis, it became necessary to involve not only governments, but also businesses in efforts to counter these trends. For this reason, work has been undertaken at EU level to design and implement instruments that support private capital in making sustainable investment decisions [www.parp.gov.pl]. The effect of these works is the 2019 regulation of the European Parliament and Council, or SFDR (Sustainable Finance Disclosure Regulation) [www.eur-lex.europa.eu], the CSRD (Corporate Sustainability Reporting Directive), which is to come into effect in 2024, and the ESRS (European Sustainability Reporting Standards) [parkiet.com 2022], which are to be formally adopted by 30 June 2023. These regulations may also serve as a signpost for enterprises wishing to formulate their own action strategy.

In order to devise a coherent EU sustainable finance strategy, the European Commission established a High-Level Expert Group on sustainable finance. The group produced a report containing eight key recommendations and the sustainable growth finance plan published in 2018 [European Court of Auditors 2018]. The main objectives included directing capital flows to investments of greater sustainability, including sustainable development issues in risk management, supporting information transparency in the entire supply chain, and

a long-term approach from the financial and economic perspective. The key issue in the plan was to design uniform classification of activities supporting sustainable development, called the EU taxonomy [PAED 2021]. The general framework for the EU taxonomy was laid out in regulation (EU) 2020/852 of the European Parliament and Council. The purpose of the taxonomy is to define clear criteria and ensure uniform notions for sustainable activities, as well as to counteract greenwashing (false declarations by manufacturers alleging that their products and services are environmentally friendly). According to the regulation, sustainable activities must include a major contribution to at least the following six environmental objectives:

- climate change mitigation,
- climate change adaptation,
- the sustainable use of water and marine resources,
- pollution prevention and control,
- the protection and restoration of biodiversity and ecosystems,
- the transition to a circular economy.

The kinds of activity that contribute to greenhouse gas emissions the most include construction, the real estate market, transport and warehousing, the water and waste sector, the energy sector, and industry [European Environment Agency 2021, 2022]. The reporting system is addressed to EU member states, entities that offer finance products, and companies obliged to provide non-finance reporting. The system may also be used on a voluntary basis by other market entities, for example to obtain financing of sustainable activities from European funds.

In Poland, according to preliminary estimates, the CSRD reporting duties will affect about 3,000 companies. They will apply first to large, publicly traded companies, next to medium-sized entities, and as of 2026 also small businesses operating on a regulated market. Reporting is quite exacting, since it requires citing specific indices which can be used to acknowledge that a company is undertaking suitable environmental, social and governance activities. First and foremost, attention is paid to environmental issues that have already been specified in detail in the taxonomy.

Due to the above regulations, manufacturing in the closed loop is a factor that nowadays determines the operational strategy of businesses (for example, in the United Kingdom investments in CLE rose by 64% in just one year, between 2020 and 2021 [www.infuture.institute/raporty]), and in the future, they will be used as a prerequisite for accessing funds.

Work on new CLE-related solutions in the EU is pending. In March 2022, action was taken to make a number of provisions more uniform. For example, regulations concerning the standardisation of USB ports in cable chargers for various mobile devices, as well as other electronic devices, including those originating outside the EU, are planned to come into force in 2024. In the case of laptops, these rules are to operate from 2026. The European Commission decided that manufacturers of smartphones, clothing and furniture must meet new requirements concerning the closed loop if they want to access the EU market. In particular, this means that new products must be durable, reusable, repairable or recyclable and contain recycled materials. The proposed regulations are consistent with the circular economy action plan for everyday items, adopted by the European Commission in 2020. The plan is also part of the European Green Deal. The purpose of the plan is to prevent the manufacturing of “single-use” items (Directive 2019/904²) [Wiński, Pamuła, Wyszynska 2022] and premature aging of products (prolonging their life cycle), while the destruction of unsold non-food goods is banned. Directive 2018/851, extending the responsibility of producers for packaging that should be recyclable (or imposing an obligation to note the percentage of recyclable products in packaging) was to be implemented in the legislation of member states by 5 July 2020, but in Poland work is still ongoing to finalise the wording of provisions in this respect [bankier.pl 2022]. According to the directive, in the future, products meeting sustainable criteria would bear a special marking (“digital product passport”) to allow consumers to make informed purchasing decisions. Among priority sectors to be included in this plan are electronic equipment, information technologies, batteries, vehicles, plastics, textiles, construction, buildings, and food [Wolters Kluwer 2022; European Commission 2019; EY Global 2022; wecoop.eu].

Both issues related to sustainable reporting and the package of regulations concerning putting the assumptions of the European Green Deal, including the CLE, into effect constitute a framework for implementing the guidelines in all EU countries. “The perfect packaging” is a project that refers to the regulation and changes slated for implementation, and the study carried out as part thereof is supposed to form a basis for taking awareness-raising measures among consumers as well as companies producing cosmetics and their packaging as regards the duties provided for in the legal provisions in question.

The ecological awareness of consumers and purchasing decisions on the Polish cosmetics market – study results

Focus study

Focus group interviews were conducted in June 2022. A total of 10 people aged from 20 to 60 participated. The participants included persons with children, single persons and people in relationships without children where each of the partners works professionally. The interviews were conducted in two groups consisting of five persons.

The purpose of the focus study was to learn about the purchasing attitudes and criteria for choosing cosmetic products and to define how much importance in the choices is attached to packaging compared to other factors. The interviews were used to collect opinions on the packaging of purchased products and identify preferences concerning cosmetic packaging. The study was supposed to help determine what ecological product packaging means according to the respondents, their attitudes towards ecology and ecological products, and what motivations and barriers exist when choosing cosmetic products packaged in an environmentally friendly manner.

The participants asserted that the importance of ecology is growing, a fact they realised because of acquiring knowledge or adjusting their behaviour to new legal provisions, for example the need to segregate waste (table 1).

Increased ecological awareness does not always translate into personal involvement and change in behaviour, however. The focus study identified three kinds of attitude towards ecology, as seen in table 2.

Table 1. Reasons for the growing importance of ecology

What makes ecology matter?	School and home education – becoming aware of threats to the environment
	Legal regulations enforcing specific behaviours
	Increased care about future generations
	Environmentally-oriented behaviours of peers (parents, friends, acquaintances).
	Encountering reports on environmental threats in the media
	The feeling of control and empowerment – attitudes and personality traits that contribute to active involvement in pursuing values

Source: own research.

Table 2. Attitudes towards ecology and their indications

Attitudes	Indications of eco-friendly attitudes
Aware and involved	Looks for ecological solutions, both in the product itself (for example universal, “two in one” products) and in its packaging (larger sizes, multiple use packaging, no plastics and redundant layers)
	Notices the absurdity of certain solutions (natural products in plastic packaging, plastic embedded into a glass bottle)
	<i>Zero waste</i> – tends to make the most of the product (a thrifty and eco-friendly approach)
	Ecological content – prefers products based on natural components
Aware but with traditional habits	Aware of threats to the environment but does not change of purchasing habits
	In purchasing decisions, prefers proven products regardless of the kind of packaging
	Appreciates ecological activities of businesses, for example replacing the packaging of previously bought products with their ecological counterparts (improved loyalty)
	Appreciates eco-friendly packaging in the case of new products
Sceptical and uninvolved	Makes choices driven by economic considerations, ecology plays no role in purchasing decisions
	Expects incentives (for example lower prices) to purchase ecological products
	Shows a sceptical approach to the ecological initiatives of manufacturers

Source: own research.

In the view of respondents, numerous factors (barriers) exist that hinder their personal involvement in ecological activities. The barriers are described in table 3.

The results of the focus study also confirmed that the type of packaging has limited impact on purchasing decisions. The force of consumer habituation

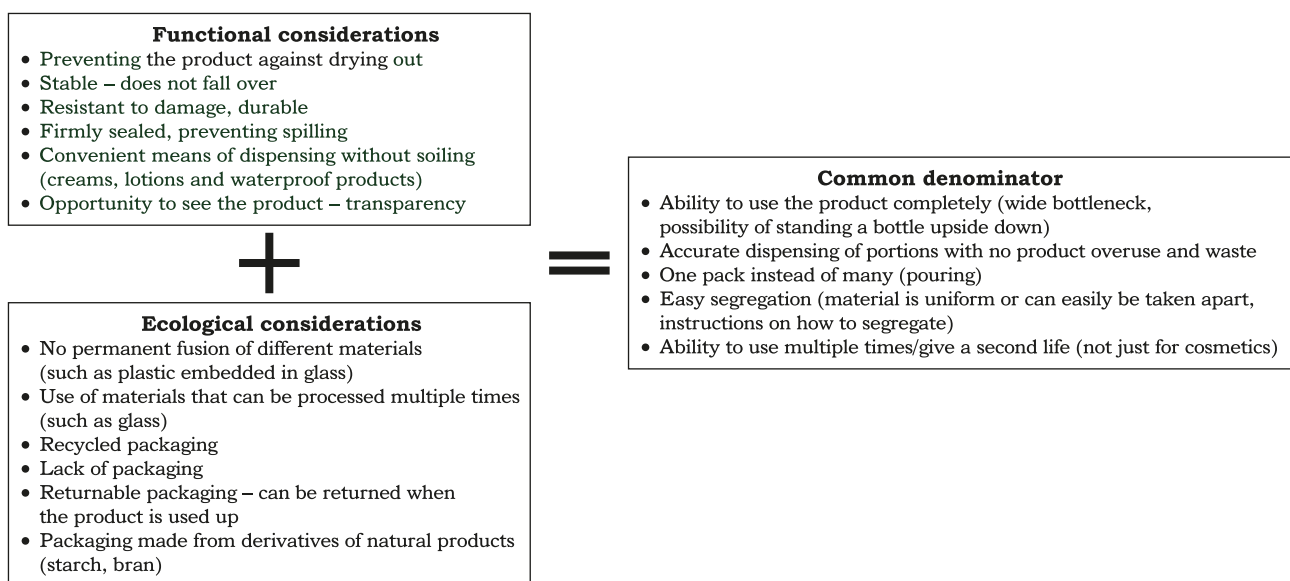
is stronger than their wish to care for the environment, and what matters in products they purchase is primarily the good quality of the product itself. In the opinion of respondents, functionality and convenience are the most important packaging features, and if they are eco-friendly, that is just an extra advantage (figure 1).

Table 3. Factors hindering personal involvement of consumers in ecology

Barriers to personal involvement in ecology	Limited range of ecological products on offer (especially in ecological packaging)
	Low availability of ecological products in stores outside large cities
	Higher prices of ecological products (extra cost of “eco” living)
	Putting personal comfort ahead of ecology, limited willingness to sacrifice
	Dispersed responsibility (“others don’t do that”)
	Perception of limited effectiveness of engaging in individual actions and low harm of failing to do so
	Eco-friendly behaviours are not grounded in habits, habit change takes a long time
	Lack of confidence in companies, especially large corporations, the feeling that eco-friendly actions are inauthentic and selective, ecology as a marketing ploy, negative experiences with ecological products
	Tiredness, depression due to other social issues (pandemic, war) that draw attention away from ecology

Source: own research.

Figure 1. Ideal packaging in the opinion of respondents of the focus study



Source: own research.

Based on the opinions received, it is worthwhile to comb the cosmetics market for products that combine the economic and usability aspect with ecology.

CAWI quantitative study

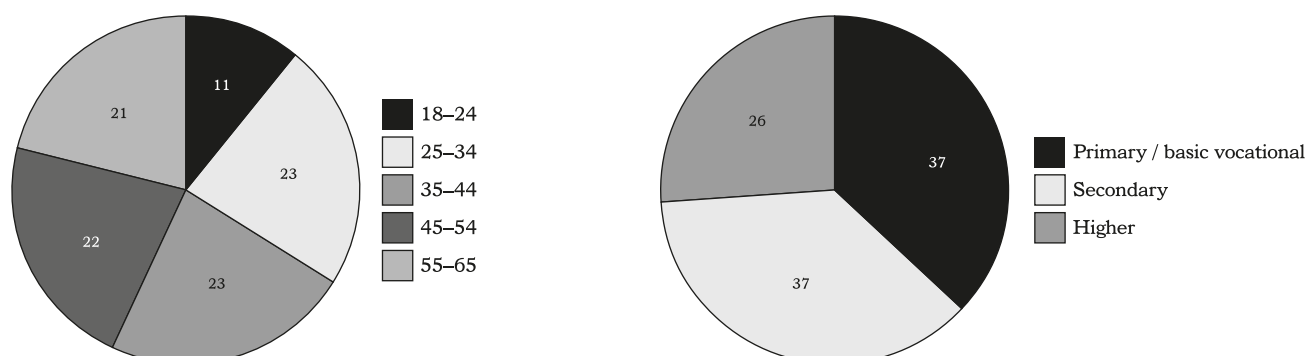
The focus study was used as a foundation to draft a questionnaire for the quantity study. The questionnaire consisted of two open-ended and 19 closed-ended questions, 21 in total. The first group of questions demonstrated purchasing habits concerning specific personal hygiene products (such as soap,

shampoo, toothpaste, deodorants etc.). The second part of the survey dealt with the type and function of cosmetics packaging. For the purpose of the study, two kinds of cosmetics packaging were identified:

- direct packaging, understood as packaging in direct contact with the product (jar, bottle, tube),
- external packaging, understood as packaging enclosing the direct packaging (such as a carton or foil in which the cream jar or wash lotion bottle is wrapped).

The third part of the survey took up the issue of whether respondents are ecologically aware and potentially take ecology into account in purchasing decisions concerning cosmetics.

Figure 2. Structure of study participants by age and level of education (in %)



Source: own research (N = 1006).

The purpose of the quantitative study was to collect opinions on cosmetics packaging, in particular the role played by packaging, knowledge of the markings placed on packaging, and the potential impact of packaging on purchasing decisions. The survey was addressed to men and women. The conducted survey resulted in 1006 correctly filled out questionnaires (N=1006). The percentage of men and women in the study sample was equal to 50%; one person declared to be of another gender. The structure of respondents by age and education is shown in figure 2.

The least numerous group was those aged 18–24 (table 4). The remaining age groups were represented by a comparable number of participants. Persons with primary or basic vocational education constituted 26% of the sample, the remainder being split evenly between those with secondary or higher education (37% each).

Women were prevalent among younger study participants (18–24 and 25–34 years), while in the older age groups (45–54 and 55–65 years) men ac-

counted for almost 60% of the total. The percentage of male and female respondents with higher education was almost comparable. 54% of people with secondary education were men, while among those with primary or basic vocational education, women accounted for more than half. Almost 37% of all participants lived in rural areas; inhabitants of small towns constituted the smallest portion in the study³ (figure 3).

Table 5 shows the structure of respondent groups living in rural areas and small, medium-sized and large towns divided by sex. The majority (60%) of respondents living in rural areas were women, while men predominated among city dwellers.

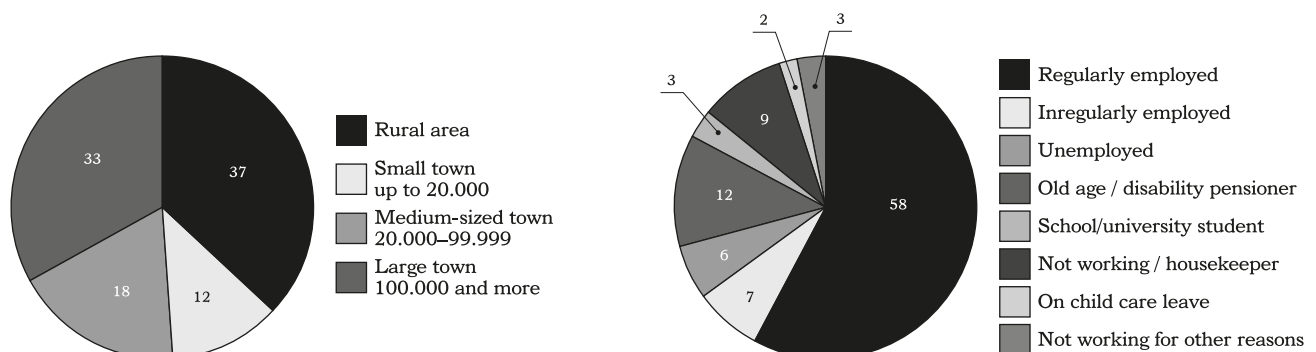
In the first part of the survey, study participants answered questions demonstrating their purchasing habits. The average expenditures for cosmetics in the households of respondents came to approximately PLN 150. Almost 68% of all of those surveyed indicated that they buy cosmetics themselves (table 6).

Table 4. Structure of participants by age, sex and level of education

Sex	Age in years					Education		
	18–24	25–34	35–44	45–54	55–65	primary or basic vocational	secondary	higher
Female	69%	58%	50%	42%	42%	55%	46%	50%
Male	31%	42%	50%	58%	58%	45%	54%	50%
Total (N = 1006)	109	232	232	221	212	375	371	260

Source: own research.

Figure 3. The structure of respondents by place of residence and current professional situation (in %)



Source: own research based on studies (N = 1006).

Table 5. Structure of respondents according to place of domicile and sex

Sex	Place of residence			
	Rural area	Small town up to 20,000 inhabitants	Medium-sized town 20,000 – 99,999 inhabitants	Large town 100,000 and more inhabitants
Female	60%	48%	46%	41%
Male	39%	52%	54%	59%
Total (N = 1006)	368	122	186	330

Source: own research.

Table 6. Persons responsible for buying cosmetics in a household – structure of answers by sex and education

Cosmetics buyer	Sex			Education		
	male	female	other	primary or basic vocational	secondary	higher
Me	92%	43%	0%	70%	63%	71%
Partner	2%	43%	100%	20%	26%	22%
Someone else	6%	14%	0%	10%	11%	7%
Total (N = 1006)	507	498	1	375	371	260

Source: own research.

Women participating in the study bought cosmetics on their own much more often than men. As many as 37% of men admitted that in their household, cosmetics are usually bought by their partner. Respondents in the youngest age group admitted more often than others than it is their mother who buys cosmetics. Among respondents with secondary education, 63% said they bought cosmetics themselves, with partners accounting for 21% of

purchases. The highest percentage of independent cosmetics buyers was found in the group of respondents with primary and higher education. On the other hand, the percentage of such buyers was comparable among respondents living in urban and rural settings.

More than 70% of all study participants said that they purchased cosmetics in brick-and-mortar drug-stores and perfumeries (table 7).

Table 7. Locations in which cosmetics are purchased most frequently – structure of answers by sex (in %)

Location (store type)	Total*	Sex		
		Female	Male	Other
Large department store	24	18	30	0
Discount store	43	40	47	0
Brick-and-mortar drugstore or perfumery	71	78	64	100
Online drugstore or perfumery	19	22	16	0
Pharmacy	12	15	9	0
Beauty salon	7	8	7	0
Manufacturer's store	5	5	6	0
Small craft shops (soap stores)	4	3	6	0
Stalls / kiosks in malls	6	6	6	0
Other	6	7	4	0

* multiple choice question – the percentages do not add up.

Source: own research.

Men purchased cosmetics more often in large department stores and discount stores. Women preferred making purchases in brick-and-mortar drugstores and perfumeries. The percentage of online purchases was the highest in the youngest respondent group (18–24 years). Both rural and small town dwellers usually purchased cosmetics in brick-and-mortar drugstores, while online stores were used among 20% of those living in medium-sized and large towns, on average. Online purchases were in turn preferred by twice as many respondents with higher (27%) than with primary or basic vocational education.

Questions in the second part of the survey questionnaire dealt with the packaging of cosmetics most often purchased by respondents. Inquiries were made concerning the material from which the external and direct packaging was made, its function and the markings placed on the packaging (table 8).

Table 8. External packaging of the most often purchased cosmetics – structure of answers by sex (in %)

External packaging	Total*	Sex	
		male	female
Paper box / carton / bag	49	53	44
Plastic packaging, e.g. carton wrapped in foil	33	32	34
Multi-material packaging consisting of at least two different materials (for example plastic-covered carton used as toothbrush packaging).	29	28	29
No external packaging (e.g. a cream jar without a carton-like box)	12	13	11
Don't know / do not pay attention	16	15	16

* multiple choice question – the percentages do not add up.

Source: own research.

Almost one half of the respondents admitted that the cosmetics they purchase usually have external packaging made from paper. According to 33% of respondents, the external packaging of these cosmetics is made from plastics. A similar percentage of respondents indicated multi-material packaging. Only slightly more than 10% of respondents decided to purchase cosmetics without external packaging.

The responses were structured almost identically in groups of respondents of both sexes. Attention should be paid, however, to a rather high percentage of respondents (15%) who do not care about the raw material from which the external packaging of the cosmetics they purchase is made. The largest number of those not caring about material packaging was found in the 45–54 and 55–65 age groups and among those with primary / basic vocational education, and the smallest among the youngest respondents. At the same time, more than one half of the youngest group admitted that they chose cosmetics in paper external packaging. The choice of paper external packaging was also positively correlated with the level of education (chosen by 56% of those with higher education).

On the other hand, the direct packaging most frequently purchased was usually made from plastics, followed by glass or mixed materials (table 9).

Table 9. Direct packaging of the most frequently purchased cosmetics – structure of responses by sex (in %)

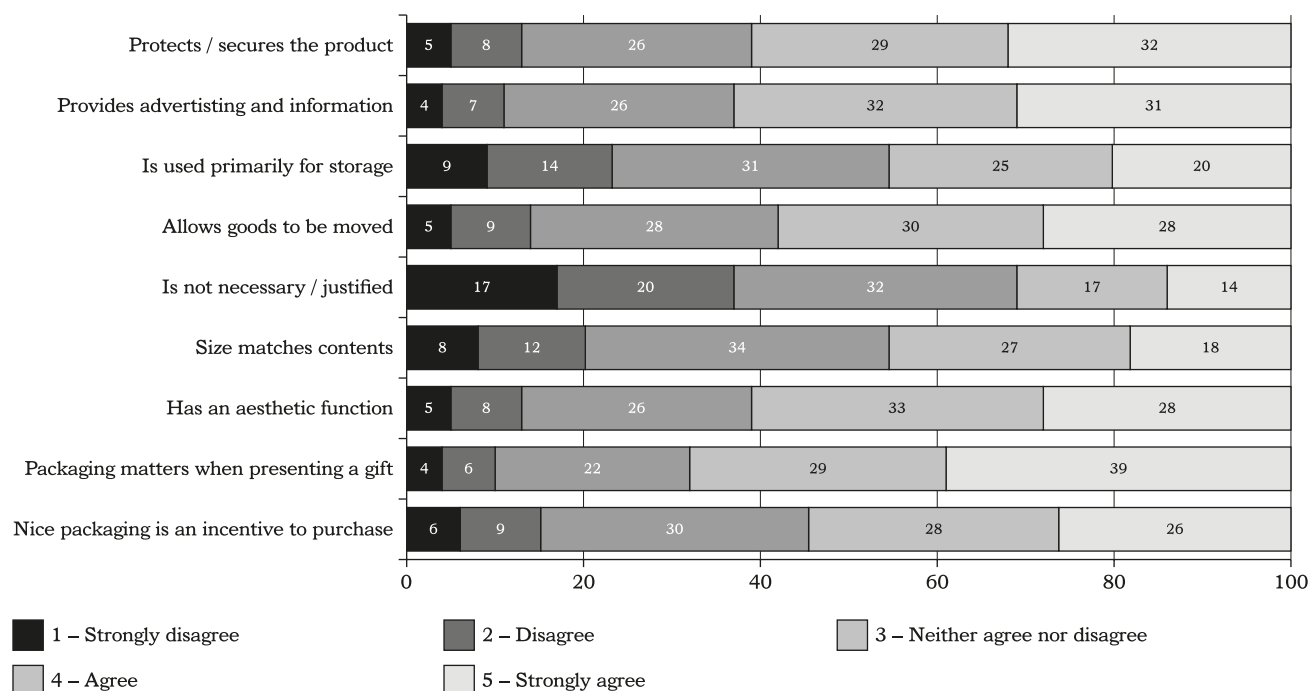
Direct packaging	Total*	Sex	
		male	female
Glass container (e.g. jar, bottle)	42	50	33
Plastic container or tube	66	64	67
Multi-material packaging consisting of at least two different materials	18	16	20
No packaging	5	3	6

* multiple choice question – the percentages do not add up.

Source: own research.

The choices were ranked similarly in answers given by both men and women, although direct packing in the form of a glass container was more often chosen by women. In each age group, the majority of purchased cosmetics had direct packaging made from plastic. Respondents with secondary and higher education chose cosmetics in glass packaging more often (45% and 44%, respectively) than those with primary / basic education (36%).

Survey participants were also asked to give their opinion about the function of direct packaging and its importance for their purchasing decisions (figure 4).

Figure 4. Functions of external packaging of most often purchased cosmetics and its importance in purchasing decisions (in %)

Source: own research.

The function most often ascribed to external packaging was protecting the product. This function was indicated more often by women than men (63% and 59% respectively), and persons with higher education (65%) than those with primary or basic vocational education (58%). Slightly more (63%) respondents admitted that the package's function is to provide advertising and information. This opinion was expressed by 64% of women and 62% of men, 67% of persons with higher education and 58% of those with primary education. No need for external packaging was declared by 31% of study participants. For almost 70% of respondents, the appearance of the external packaging is important when they buy the cosmetic as a gift. Almost one half of those surveyed (54%) admitted that nice cosmetics packaging serves as an incentive to purchase (28% of women and 27% of men).

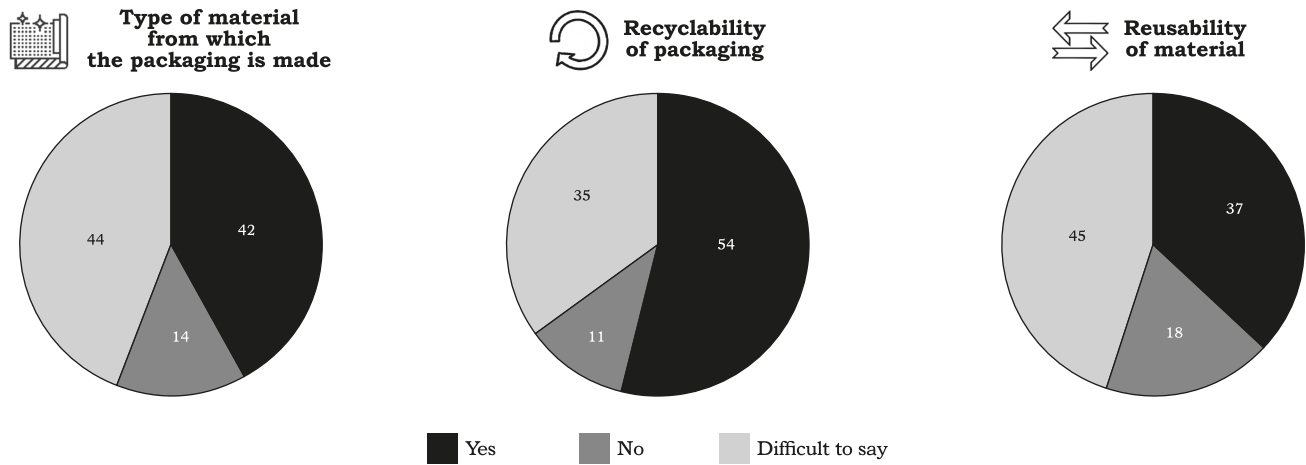
More than one half of the study subjects acknowledged that they pay attention to whether the packaging can be recycled. Slightly less (42%) focused on the type of material from which the packaging is made and the possibilities of its reuse (figure 5).

Attention to the possibility of recycling was paid by a similar group of women and men (54% and

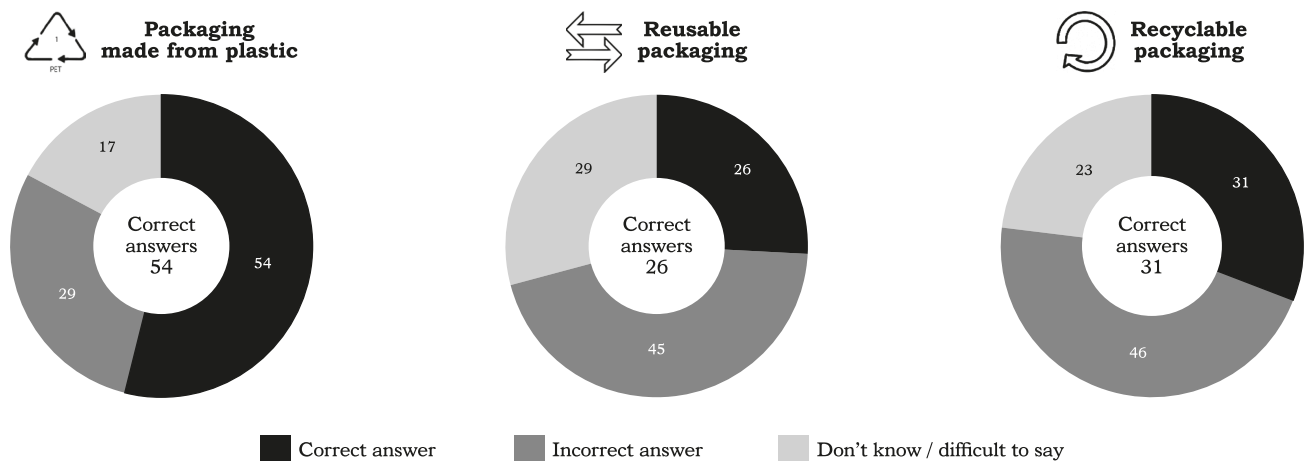
53% respectively). Women (45%) more often than men (39%) acknowledged that they analyse the material from which packaging is made and pay attention to reusing the cosmetics packaging they purchase (39% and 35% respectively). Respondents in the age groups 18–24 and 25–34 most often claimed that they recognise the symbols showing the material from which packaging is made (56% and 50% respectively), the recyclability of packaging (63% and 60%) and the reusability of material (45 and 44%). Symbols on packaging are noticed by almost one half of those with higher education, 44% of those with secondary education, and 41% of those with primary or basic vocational education.

The markings used on packaging made from plastic were known to more than one half of the study participants. Much fewer of them recognised the markings of reusable and recyclable materials (figure 6).

The plastic packaging marking was most often confused with the recyclable packaging symbol, with the wrong answer given more often by men (23%) than women (18%). The same mistake was more frequently made by respondents with higher education (27%) than those with primary or basic vocational education (15%).

Figure 5. Noticeability of symbols on external packaging of cosmetics (in %)

Source: own research.

Figure 6. Awareness of symbols used on external packaging of cosmetics (in %)

Source: own research.

On the other hand, the reusable packaging marking was most often confused with the symbol denoting packaging made from plastic. Women gave the correct answer less frequently (22%) than men (30%). In addition, women more often confused this symbol with the plastic packaging symbol (32%) than men (25%). A similar relationship can be observed among respondents with primary and higher education. The correct answer was chosen the least frequently by those with primary or basic vocational education (21%) and the most frequently by those with higher education (32%). The greatest awareness of reusable packaging markings was found among inhabitants of medium-sized towns cities (29%) and the least awareness among rural inhabit-

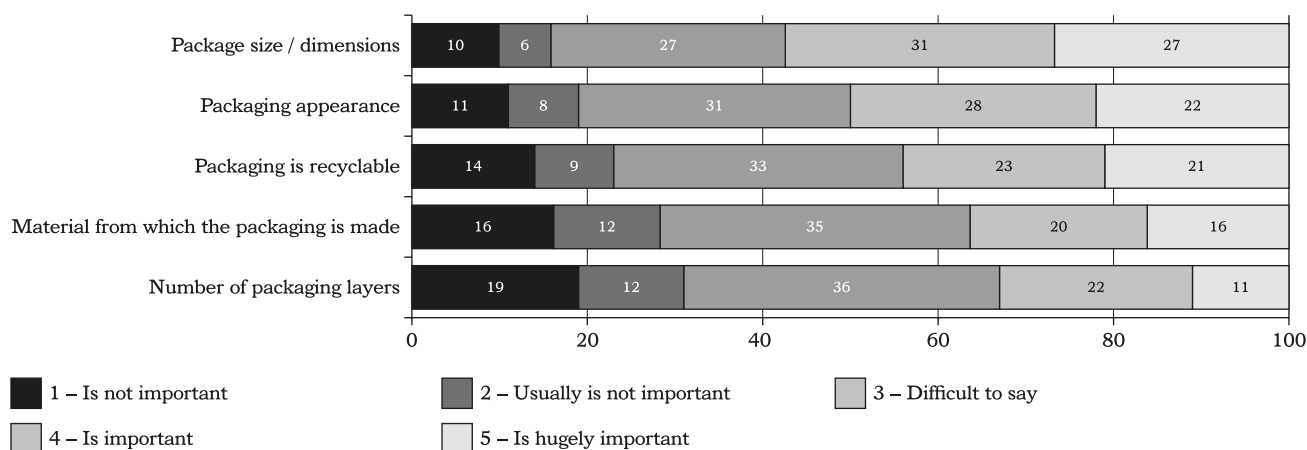
ants (22%), who most often confused these markings with the plastics packaging symbol (30%).

The recyclable packaging symbol was most often confused with the plastic packaging markings; the wrong answer came more often from women (30%) than from men (23%). The correct answer was chosen the least frequently by those with primary or basic vocational education (15%) and the most frequently by those with secondary education (23%). Among rural dwellers, the symbol's meaning was correctly recognised by 29%. The same percentage of study participants confused this symbol with the plastic packaging symbol. The greatest awareness of the recyclable packaging symbol was found among large town dwellers (34%), followed by medium-sized town dwellers (32%).

The last part of the survey study dealt with product choice criteria and customs related to purchasing cosmetics. Among packaging features, purchasers pay

attention in particular to the size and appearance of packaging (figure 7).

Figure 7. Features of packaging of the most frequently bought cosmetics and their importance in purchasing decisions (in %)



Source: own research.

The size of packaging was essential for 60% of women and 55% of men participating in the study and for more than one half of those with primary education, 60% of those with secondary education, and almost the same number of those with higher education. The importance of packaging size was similar regardless of a respondent's locality (rural area – 58%, small town – 60%, large town – 54%). Almost 45% of respondents show an interest in checking whether the packaging is recyclable. This feature is more essential for women (50%) than for men (38%). Attention to recyclability of packaging was paid by almost one half of respondents aged 25-34 and was least important for those in the youngest age group (40%). The largest percentage of participants for which recyclability of purchased cosmetics is important was found among rural dwellers (46%) and is slightly less in small and medium-sized towns (42%). For 33% of those surveyed, the number of packaging layers was important, because they avoid cosmetics with redundant layers that generate unnecessary waste. However, the same percentage of those surveyed acknowledged that this aspect does not matter when making the decision to purchase cosmetics. The number of packaging layers was slightly more important for women (36%) than for men (30%) and for rural and small town dwellers (34%) than large town dwellers (31%).

Opinions on issues related to purchasing cosmetics were presented in table 10.

The possibility of using the cosmetic fully is an issue noticed by the majority of those surveyed while making purchasing decisions. This statement was supported by 61% of men and 58% of women. It was key for more than 70% of those aged 55–65, but only for slightly more than one half belonging to the youngest age group and those with primary or basic vocational education. In the view of the participants, nice packaging does matter for expensive cosmetics, such as perfumes, an opinion confirmed by more women (54%) than men (51%) and less persons with primary or basic vocational (49%) than with secondary (56%) and higher (53%) education. Packaging does not affect the purchasing decisions of 37% of respondents, an opinion agreed with by as many men (38%) as women (37%) and more persons with higher (40%) than with primary or basic vocational (38%) education. On average, 33% of those surveyed were unable to state a definite opinion, with most of them, more than 45%, admitting that they do not pay attention to the number of layers of cosmetics packaging they purchase.

The quantitative survey was rounded out by a batch of questions concerning ecological beliefs and manner of expressing ecological attitudes. Results confirming the pro-ecological attitude of the surveyed according to sex have been presented in table 11.

Table 10. Impact of packaging on purchasing decisions of surveyed women and men (in %)

Statement	Strongly agree		Agree	
	male	female	male	female
I am willing to pay more for cosmetics in eco-friendly packaging	12	8	20	18
I would purchase cosmetics without packaging if I had the opportunity	20	15	21	20
For me, packaging functionality matters more than the material it is made of	22	24	26	29
I buy universal cosmetics for various purposes – one bottle instead of many (e.g. shampoo with conditioner)	20	20	18	25
I buy larger-sized cosmetics and pour the contents into reusable packaging	19	12	20	19
I prefer using cosmetics whose packaging allows them to be used fully	35	33	23	28
I choose cosmetics made from natural ingredients	23	15	28	28
I avoid products in plastic packaging	12	10	18	13
I avoid products in multi-layered packaging	17	10	17	18
I choose more often products in glass packaging	18	14	20	21
Nice packaging matters in the case of expensive cosmetics (such as perfumes)	27	22	27	29
Cosmetics should have at least direct packaging	30	27	25	28
Cosmetics packaging does not affect my purchasing decisions	18	17	19	21

Source: own research.

Table 11. Opinions of the surveyed women and men concerning ecology (in %)

Statement	Strongly agree		Agree	
	male	female	male	female
I often decide not to purchase a product because it harms the environment	15	10	16	16
I believe in global warming	34	31	19	17
Compulsory waste segregation is no problem for me	40	33	18	22
Each of us has an obligation to make informed consumer choices and think about our impact on the environment	38	26	26	31
When I go to do large food shopping, I always take reusable bags with me	56	43	16	26
I do not like to throw away things that can be repaired	40	36	26	32
I attach much importance to proper segregation of waste at home	42	34	25	32
We urgently need large-scale introduction of new types of packaging that will not have such negative impact on the environment	34	23	23	28

Source: own research.

Use of reusable bags (women 72%, men 69%), fixing used items (women 67%, men 68%) or proper segregation of waste (women 67%, men 65%) are the dominant eco-friendly attitudes declared by those surveyed. The older generations (45–54 and 55–65) stated that they use reusable bags more often (respectively 75% and 78%) than the youngest generation (61%). Fixing items to reuse them was attempted more often by those aged 55–65 (75%) than the 35–44 age group (65%). Care about the proper segregation of waste was declared by 67%

of women and 65% of men. Such care goes hand in hand with the level of education: 61% – primary or basic vocational, 69% – secondary and 70% – higher education. Rural inhabitants stated that they care about proper waste segregation more often than large town dwellers (66% and 62% respectively).

One half of those surveyed acknowledged that they believe in global warming (53% of women, 48% of men). The most sceptical approach to global warming was shown by respondents aged 25–34 – almost 25% did not believe that the process is tak-

ing place. Only 29% of respondents (32% of women and 26% of men) avoid buying cosmetics that have a negative impact on the environment. This is less than the percentage of those accepting cosmetics that are not eco-friendly (33%). The waste segregation obligation was no problem for 56% of those surveyed (57% women and 55% of men); 22% considered it onerous and annoying.

Conclusions

The studies we conducted enabled the eco-friendly attitudes of consumers to be analysed, taking into account their individual traits such as sex, age, education or place of residence. As a result, three groups of consumers who show similar attitudes towards ecology and similar habits in purchasing cosmetic products were identified. The first group is ecology enthusiasts (N = 315). This includes mostly women and people from the oldest age group. These users like cosmetics and buy them for themselves. They spend more than others (more than PLN 182 per month on average) on these products and their purchasing decisions are guided by ecological considerations. They also display eco-friendly attitudes. The second, more numerous group is the centrists (N = 324). This consists of an equal number of women and men with secondary or higher education. Those with primary / basic vocational education are in the minority. Members of this group more often fall into the 45–54 age range. Ecological centrists appreciate cosmetics but spend almost 30% less per month on them than the enthusiasts. They make their purchases in brick-and-mortar drugstores. Appearance and functionality are what matters for them in cosmetics packaging, and they do not see the need for use of external packaging. The largest group is the so-called sceptical minimalists (N = 367). These are usually men and those with primary / basic vocational education. People aged 25–34 and 35–44 predominate in this group. Usually, they do not buy cosmetics for themselves, do not analyse the range of items on offer, and do not show a detailed understanding of this product category. They are sceptical towards ecology and trends showing eco-friendly behaviours. A small percentage of sceptical minimalists do engage in eco-friendly behaviour.

The results of quantitative research conducted on a representative sample of adult Poles point to changes in consumer attitudes, at least according to

verbal declarations. At least one half of study participants noted the urgent need to introduce new types of packaging which have less negative impact on the environment. About 30% of cosmetics purchasers are willing to pay more for a product in ecological packaging. The same number acknowledged that they are willing to stop purchasing a product due to its harmful effects on the environment. It can therefore be expected that, as ecological awareness grows, consumers will increasingly reject cosmetics in non-ecological packaging, which may be an important sign for manufacturers.

There is apparently a considerable need to develop and systematise knowledge about what ecological packaging is, as well as to dispel existing myths (such as glass is the most eco-friendly material, packaging from recycled materials is not aesthetic and moreover cannot come into contact with the product). Therefore, in awareness-raising activities it is worth focusing not only on proving that care for the environment is important, but also showing in detail what criteria must be met for a packaging to be considered eco-friendly. Considering the needs and priorities of consumers, it is advisable to promote packaging that combines ecology with aesthetics, safety and functionality.

In reference to questions raised in the introduction to this article, sex, as well as the level of education and place of residence, do indeed affect purchasing decisions in the case of cosmetics. Based on the results of the conducted study, one cannot unequivocally answer the question of whether consumers are able to influence producers of cosmetics. Yet, in the context of growing eco-friendly attitudes and awareness, the results of the study may form an important part of activities undertaken by enterprises with respect to their business strategies and models.

¹ The study was conducted in August 2022 by the ABC Rynek and Opinia polling agency at the request of the International Women Forum. The study partner was Rekopól.

² The Single Use Plastics directive [Directive 2019/904] came into force on 3 July 2021. In Poland, the relevant provisions were not adopted until July 2022 and will come into effect on 1 January 2023.

³ Small towns – up to 20,000 inhabitants, medium-sized towns – 20,000 to 100,000 inhabitants, large towns – 100,000 and more inhabitants [GUS 2018].

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