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TOWARDS SUSTAINABLE PURCHASE: THE EFFECT OF SOCIAL RESPONSIBILITY, INNOVATIVENESS AND KNOWLEDGE OF NATURAL COSMETICS PURCHASING CONSUMERS' INTENTIONS

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ABSTRACT: The article aims to broaden the understanding of factors affecting natural cosmetics purchasing behaviours and specifically, to specify the role social responsibility, consumers' innovativeness and knowledge play in shaping purchasing intentions for these products. The study uses the extended theory of planned behaviour as its theoretical framework and is based on theoretical support and suggested modification indices. The study applies a quantitative methodology which collects survey data from Ukraine and Poland. It was analysed using Structural Equation Modelling. Results reveal that attitude towards purchasing natural cosmetics, social norms, consumers' innovativeness and consumer's natural cosmetics knowledge all have statistically significant and positive impacts on the purchase intention towards natural cosmetic products. This study contributes to the literature by incorporating other variables into the TPB model. It provides new insights and constitutes a useful step forward in the understanding of consumers' behaviours towards natural cosmetics.

KEYWORDS: natural cosmetics, attitude, innovativeness, social responsibility, consumers' purchase intention

Introduction

Environmental degradation is a serious global problem. Carbon emission, water contamination, microplastic particles in products and waste pose a challenge to cosmetics market participants. Consumers are more and more interested in the environmental impact, the composition of cosmetics, their biodegradability, the manner in which they are obtained, which definitely contributed to increased demand for natural cosmetics. Consequently, companies are more and more willing to develop and introduce natural cosmetics. Companies decide to change the composition of cosmetics, including increasing the amount of natural ingredients in products, eliminating microplastics, or using palm oil from certified sources (Pienczykowska, 2021). It is assumed that natural cosmetics are produced almost exclusively from natural ingredients as they were originally offered to allergy sufferers (Global Insight, 2007). In this way, natural cosmetics are treated as a separate segment of cosmetics, one that has been developing very dynamically in recent years (Firek & Dziadkowiec, 2020). Although there are no legal regulations for natural cosmetics, companies wishing to increase their credibility have the opportunity to adapt their products to ISO standards (European Union, 2020; Euromonitor, 2023; International Organization for Standardization, 2016; International Organization for Standardization, 2017; PKO, 2022; The Nielsen Company, 2018) or other international standards, e.g. Ecocert, COSMOS or Natrue. There is the need for understanding and encouraging consumers to exhibit behaviours towards the purchase of eco-friendly products, manufactured in an ethical manner. Studies on natural cosmetics are conducted mainly in engineering and technical sciences as well as social sciences. On the one hand, the authors focus on the new product composition and ingredients of natural cosmetic formulas (Basily et al., 2018; Dreger & Wielgus, 2013; Dweck, 2011), increasing product effectiveness (Bowe & Pugliese, 2014), product safety (Podgórska et al., 2021; Vasiljević & Bojović, 2018) and possible certification (Newerli-Guz, 2011). Thus, many studies have examined various aspects of the production of natural cosmetics (Yarkent et al., 2020). On the other hand, very few studies consider demand side aspects, like the purchasing behaviour of consumers towards natural cosmetics at the individual level and factors shaping the intention to buy natural cosmetics. Some previous studies have drawn attention to consumer attitudes and motivations towards natural cosmetics (Matić & Puh, 2016; Lin et al., 2018; Amberg & Fogarassy, 2019; Syahrul & Mayangsari, 2020), or analyzed the impact of marketing factors, i.e. promotion (Vidhya & Ramesh, 2017) and packaging (Vidhya & Ramesh, 2017) on consumer behaviour.

The literature review led to the observation that there was no study discussing the role of consumer social responsibility, consumer innovativeness and knowledge in shaping purchasing behaviours on the natural cosmetics market. Our research incorporates these factors into the TPB theory so as to gain a better, deeper and more comprehensive understanding of consumers' behaviours

towards eco-friendly cosmetic products. Some studies show a relationship between digital behaviours and sustainable behaviours (Mohd Suki, 2016; Taneja & Ali, 2021; Vitell, 2015). Consumer social responsibility has an important role in switching to a green life style. Furthermore, our research explores the aspects of green purchasing inconsistency. The understanding of factors related to purchasing behaviours in the natural cosmetics industry, especially in the context of emerging markets, is limited. This research helps to fill that gap both theoretically and empirically. In the light of above considerations, the main purpose of this article is to broaden the understanding of factors affecting natural cosmetics purchasing behaviours, and specifically, to specify the role social responsibility, consumer's innovativeness and knowledge play in shaping purchasing intentions for natural cosmetics as well as the way they are affected by the moderating role of consumer's natural cosmetics knowledge and customer's country of origin. Deepening the knowledge about the studied factors is especially important for manufacturers and retailers, who are looking for new knowledge about designing innovative, environmentally friendly products and implementing effective marketing strategies and educational programs that improve the level of brand experience and customer satisfaction, and shape socially responsible behaviour. Purchasers need to understand that buying natural cosmetics has environmental and social benefits.

An overview of the literature

Consumers' purchase intention towards natural cosmetics

An important model for predicting not only the behaviour intention, but also the behaviour itself, including purchasing behaviour, is the Theory of Planned Behaviour – TPB (Ajzen, 1991). A fundamental variable in the TPB theory is behavioural intention which describes an individual's motivation for performing a specific behavior (Ajzen, 1991). Behavioural intention is an important predictor of actual behaviour and serves as a basis for predicting a purchaser's behaviour (Si et al., 2019). A literature review demonstrates that TPB is effective in measuring environmental friendly behaviors and purchase intention and behaviours for eco-friendly products (Cao et al., 2022; Chaudhary, 2018; Jaiswal & Kant, 2018; Kamalanon et al., 2022; Qi & Ploeger, 2021; Si et al., 2022; Taufique & Vaithianathan, 2018). Intention was used to explain purchasers' behaviours in the case of natural or green products (Askadilla & Krisjanti, 2017; Kumudhini & Kumaran, 2021; Lavuri et al., 2022; Matić & Puh, 2016; Naszariah et al., 2021; Puh, 2016). The result of Bayaah Ahmad (2018) showed that women consumers with greater concern for their health have a higher intention to purchase natural beauty products. Purchasers of organic food also tend to buy natural and organic cosmetic products (Amberg & Fogarassy, 2019; Yeon & Chung, 2011). Purchase intention is linked to the attitude towards purchase and social norms (Zhuang et al., 2021). A relationship between the attitude, social norms and consumer's

intention is not always significant, since the intention to make a purchase may be conditional upon a variety of other factors (Witek, 2019).

Attitude towards purchasing natural cosmetics

An attitude is an essential concept in research into consumer behaviours, because it plays a decisive role in making purchase decisions (Witek & Kuźniar, 2021). It is an element which is appreciated due to its durability and capability of explaining and predicting an intention and purchase behaviour (Wierzbiński et al., 2021). A positive attitude towards a behaviour makes that behaviour more likely to occur (Ajzen, 1991). Many studies investigated the impact of an attitude on consumers' intention and behaviour in various contexts (Qi & Ploeger, 2021; Shalender & Sharma, 2021; Zaremohzzabieh et al., 2021). Attitudes may serve to explain the intention to purchase cosmetics, where consumers' are increasingly paying attention to environmental concerns, as well as social and ethical matters (Askadilla & Krisjanti, 2017). Attitude effects intention towards green products (Al Mamun et al., 2018). Issues relating to attitudes and their correlations with behaviours are relevant on the natural cosmetics market, as buyers' attitudes drive their purchase decisions (Hsu et al., 2017). Attitudes shape the relationship between what purchasers think about natural cosmetics and what they buy (Zhang, 2019). Xin and Yang (2018) found that women buy cosmetics while taking into account their quality, price and delivery. Yeon and Chung (2011) indicated that environmental consciousness and appearance consciousness positively influence attitude towards buying green personal care products. Lavuri et al. (2022) proved that consumers' attitudes mediate the intention to purchase luxury organic beauty products. Kumudhini and Kumaran (2021) verified that consumer attitude is the best predictor of intention for purchasing natural cosmetic products. Based on the literature review, the following hypotheses can be drawn:

H1: Attitude towards purchasing natural cosmetics is significantly positively correlated with the purchase intention towards natural cosmetic products.

Social norms

Social norms are referred to by Ajzen (1991) as social pressure which is exerted on an individual to ensure that he or she is engaged in specific behaviour. This is linked to a consumer's perception of what other consumers, whom he or she considers important or significant, would expect him or her to do in a given situation. The opinions of other people who are close to and important to a given consumer influence the purchase decisions that this consumer makes. These people may include: friends, family members, teachers, doctors, cosmeticians, colleagues, business partners, experts and media. Wooten and Reed (2004) implied that an individual's personality and upbringing are factors which affect susceptibility to social pressure. Studies demonstrated the relationship between

social impact, on the one hand, and purchase intention and the purchase of a product, on the other (Öhman, 2011; Sanjeev Bansa & Gupta, 2020). East et al. (2017) shows the impact of word of mouth on the receiver's intention to purchase brands. Some studies provide evidence that eco-friendly behaviours are conditioned by social norms (Chao, 2012; Culiberg & Elgaaied-Gambier, 2016). Social norms are a powerful factor in explaining and predicting green consumer behaviours (Ahn et al., 2020). Park and Ha (2012) observed that customers buying organic products exhibited a higher level of the impact of social norms compared to non-buyers. East et al. (2017) drew attention to the fact that consumers shared the experience of using cosmetics brands with other consumers. Word of mouth happened when consumers gave their recommendations (Romaniuk, 2012). Social norms have a significant positive effect on the intention to purchase the cosmetic products (Ringim & Reni, 2019). Consumers face social pressure related to the consumption and purchase of eco-friendly cosmetics, which are made in a socially responsible manufacturing process (Pop et al., 2020). The above review gives grounds to claim that:

H2: Social norms have a significant positive impact on the purchase intention towards natural cosmetic products.

Consumers' innovativeness

Consumers' innovativeness is portrayed in the literature as an important factor that determines the adoption of innovative products and as a driving force behind consumers' innovative behaviours (Ahmad et al., 2016; Muraguri et al., 2020). Innovative consumers are more open to changes and more willing to strengthen values towards concern for the environment and social aspects (Muraguri et al., 2020). Nikdavoodi (2012) revealed that consumers' innovativeness and attitudes towards both skincare and make-up products were crucial predictors of cosmetics purchase intention. Studies conducted by Flores and Jansson (2021) pointed to the importance of consumers' innovativeness in accepting green innovations. Lao (2014) demonstrates that consumer innovativeness affects, to a large extent, consumer-reasoned green consumption behaviour. Purchasers who are open to innovation are more likely to purchase organic cosmetics (Kaliyadan et al., 2021). Consumers open to new cosmetics brands are interested, to a higher degree, in purchasing natural cosmetics (Puh, 2016). The current trend to shop online for cosmetic products is dynamic, particularly when taking into consideration mobile connection (The Nielsen Company, 2018). Mutambala and Aliyar (2015) showed that, as far as the cosmetic products market is concerned, both trust and shopping enjoyment are positively related to consumers' online purchase intention. Therefore, consumers' innovativeness is an important factor in encouraging purchase intention towards natural cosmetic products and we propose that:

H3: Consumer's innovativeness has a significant positive effect on the purchase intention towards natural cosmetic products.

Consumer's social responsibility

The growth of the cosmetics market is driven by consumers' new requirements related to sustainable development (Acharya et al., 2021). Consumers are more and more frequently paying attention to the conditions in which products are manufactured, and therefore, sustainability, environmental concerns and human safety are rising in importance for all cosmetic products (Fonseca-Santos et al., 2015; Šniepienė & Jankauskienė, 2021). In this context, consumers' social responsibility is linked not only to ethical and moral canons but also to social factors which shape consumers' market decisions and change their lifestyles (Brückel & Schneider, 2019). Consumers are altering their shopping patterns, switching to products which are not harmful and have no detrimental effect on the environment and animals (Wheale & Hinton, 2007). These responsible behaviours require informed, appropriate consumer and purchase decisions which are based on consumers' personal and moral beliefs (Caruana & Chatzidakis, 2014). Attitude and social norms demonstrated much stronger associations with purchase intention when a product contributed to environmental protection rather than when it was related to the support of human rights (Han et al., 2010). The concept of a cruelty-free product is an important aspect of natural cosmetics, in which case there is no place for products tested on animals (Csorba & Boglea, 2011). The findings of Chou et al. (2020) revealed that in the case of products exhibiting a high level of consumer social responsibility, the consumer attitude is less effective in relation to purchase intention. The studies of Kit Teng and Wan Jusoh (2013), as well as Yousoof et al. (2020), demonstrated a significant correlation between consumers' responsibility and purchase intention towards cosmetic products. Hence, based on the above discussion, this study proposes the following hypothesis:

H4: Consumers' social responsibility is significantly positively related to consumers' purchase intention towards natural cosmetic products.

Consumer's natural cosmetics knowledge

Knowledge shows significant influence in explaining a consumer's purchase intention, as it has a bearing on all phases of the consumer's decision-making process. Past literature shows that knowledge had a significant effect on modelling the intention and behaviour to environmentally friendly products (Kasargodu Anebagilu et al., 2021). It refers to the consumer's cognitive faculties for recognising natural cosmetics, and in particular manufacturing standards, labelling, as well as the benefits and consequences of such purchases for the environment (Peschel et al., 2016). Consumers have greater knowledge of social and environmental problems and of methods needed to solve them and show a stronger inclination to purchase sustainable products (Kong et al., 2016). Many studies considered knowledge a predictive factor behind the intention to purchase sustainable products (Chen & Deng, 2016; Fu & Elliott, 2013; Vicente-Mo-

lina et al., 2013; Wang et al., 2014). The study (Gautam, 2020) results revealed that the greater the environmental knowledge of environmentally friendly products, the more positive attitude towards environmentally friendly products. Furthermore, it was observed that in the case of consumers with greater knowledge, the relationship between social norms and purchase intention is weaker. Green brand knowledge was found to be the most significant determinant of green product purchase intention (Mohd Suki, 2016). Fu and Elliott (2013) submitted that perceived product innovativeness and knowledge of a product not only directly affect consumers' purchase intentions but also moderate the effect of an attitude (and subjective norms) on their purchase intention. Many studies confirmed the moderating effects of product knowledge on the relationship between green purchase attitudes (also social norms) and green purchase intention (Noor et al., 2012; Chen & Deng, 2016; Fraj-Andrés & Martínez-Salinas, 2007; Kumar et al., 2017). Knowledge also moderates the relationship between green marketing mix and purchase intention (Mahmoud et al., 2017). Consumers' educational knowledge is poor, which makes it difficult for responsible consumers to purchase products (Calderon-Monge et al., 2021). Other authors showed that consumers do not necessarily buy green products even if they have knowledge of green products and know their attributes (Wang et al., 2019). Dimitrova et al. (2009) investigated consumers' cognitive process of knowledge accumulation for natural cosmetic products. Consumers involved in that study displayed strong attitudes towards green cosmetic products when their knowledge of such products, and especially of measurement standards, was vast (Lin et al., 2018). This results from the fact that consumers have greater knowledge of natural cosmetic products and are able to discern the great value and benefits arising from their consumption (Lu & Chen, 2017). Moreover, a correlation between attitude and purchase intention is stronger when consumers consider a product to be more innovative (Fu & Elliott, 2013). Studies carried out by Scalco et al. (2017) demonstrated that an individual attitude seems to play the role of a moderator between subjective norms and behavioural intention. As a result, the study hypothesises that:

H5: Consumer's natural cosmetics knowledge moderates the attitude towards purchasing natural cosmetics, social norms, consumer's social responsibility, consumer's innovativeness and the purchase intention towards natural cosmetic products.

Consumer's country of origin and the intention to purchase natural cosmetics

The fast development of the natural cosmetics market in recent years is determined, on the one hand, by changes in legal regulations (e.g. systematic ban on the use of an increasing number of harmful chemicals in the EU) and, on the other hand, by the increasing customer awareness of the negative impact of toxic substances in everyday products (e.g. conventional cosmetics) on human health and the natural environment (European Union, 2020). Global sales of natural

cosmetics reached USD 36 billion in 2019 (FMI, 2022). Despite the COVID-19 pandemic, the natural cosmetics segment in Poland grew in 2020 at a rate several times higher than the entire cosmetics market in general. Additionally, the average annual growth rate for the natural cosmetics market will be over 10% by 2026 (Szałas, 2021). The health and beauty sector in Ukraine was projected to produce the third fastest growth at a CAGR of 4.9% during the period 2017-2022 (Euromonitor, 2023). In 2021, the value of cosmetics sold in Poland was EUR 3,855 billion, and in Ukraine, it was EUR 2,209 billion. Unfortunately, the war in Ukraine has a negative impact on the market in both countries, as Poland is the largest exporter of cosmetics to the Ukrainian market (Hryshkova & Chernichkin, 2018; PKO, 2022). Thus, the following hypothesis can be put forward:

H6: The customer's country of origin moderates the influence of various factors on the purchase intention towards natural cosmetic products.

Research methods

Research model

As a result of the literature review and the hypotheses, a conceptual model was built. It is a specific cognitive form which fulfils, on the one hand, theoretical functions by providing a particular image of reality and on the other hand – practical functions, which are tools in conducting empirical research. The presented model (Figure 1) is closely related to the presented theory and the conducted literature review, complementing them.
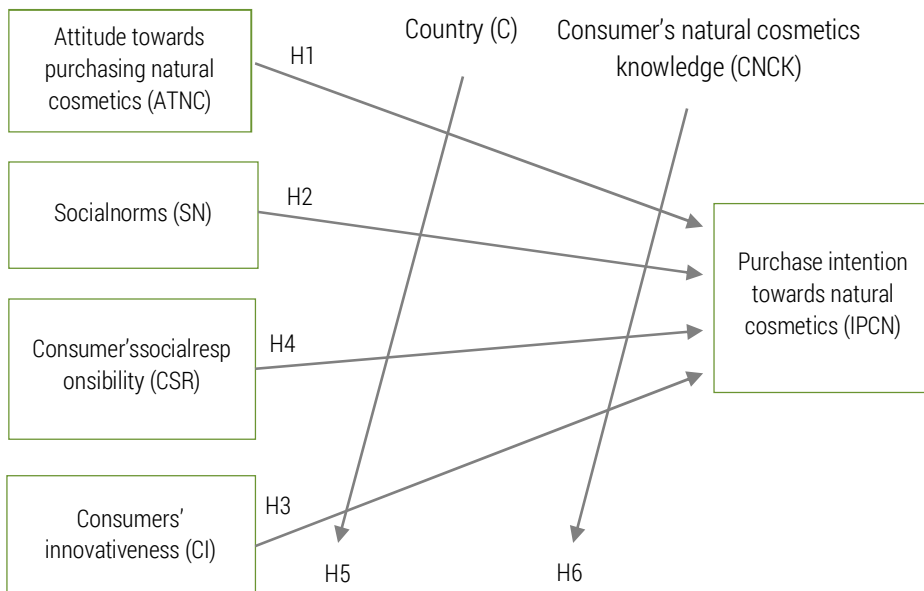

Figure 1. The conceptual model developed from the research

The proposed conceptual model will be used in empirical research to verify the previously presented hypotheses.

Sampling

The article presents the results of a comparative study conducted in two purposefully selected European countries. Both in Poland and Ukraine, natural cosmetics have been a new line of cosmetics for several years. These countries also strongly cooperate in terms of the import and export of various cosmetics. At the same time, these two countries differ in many respects, which may be important for the development of the consumer market with respect to the social and environmental aspects as well as consumer behaviour in this market. The research found that the differences between Poland and Ukraine were mainly economic. Compared to Ukraine, Poland is a developed country with a higher GDP and economic development. Poland also belongs to the EU, which has introduced a wide range of pro-environmental policies. In Ukraine, the emphasis on environmental protection is not as strong. However, environmental issues are becoming more important. To check for the potential effect of common method variance (CMV) in the study, we utilised a control variable analysis where the correlations are examined once the effects of a single method are removed. Additionally, a sensitivity analysis is conducted whereby the 95% and 99% confidence intervals are examined for any changes in significance. The results of this analysis indicate that the common method does not impact the results in a significant way.

A quantitative study was carried out to obtain large amounts of data to validate the theoretical model. The research method used was a survey. The research procedure consisted of several stages. First, the cosmetics markets in the two countries were reviewed in terms of the availability of natural cosmetics, as well as the terminology used by companies from the beauty sector to communicate with the consumer. Then, the method of communication with the consumers was selected (online), as well as the location of the electronic questionnaire (Webankieta, 2021). The developed questionnaire consisting of several questions was then tested. The pilot study on a group of several dozen respondents made it possible to ensure that the questions contained in the questionnaire were understandable and consistent. Based on the results of the pilot study, the questionnaire was appropriately refined, although it did not require significant changes.

In order to obtain reliable answers, a closed filtering question was used. It ensured that consumers who had never purchased a natural cosmetic were not included in the study. The survey with an improved questionnaire was conducted in both countries simultaneously. It was available to Polish and Ukrainian consumers in their national languages and in electronic form between November 2020 and February 2021. The collected data was then cleaned and analysed in terms of purchase intention towards natural cosmetic products, attitudes towards purchasing natural cosmetics, social norms, consumer's social responsi-

bility, consumer's innovativeness, consumer's natural cosmetics knowledge and customer's country of origin.

The sample had the following sociodemographic characteristics: age, gender, education, place of living, financial situation, and educational level (Table 1). In both countries, the research sample was dominated by young people (18-24). The respondents are mainly educated at the secondary level (Poland) or at the vocational level (Ukraine) live in big cities (Poland) or villages (Ukraine).

Table 1. Sociodemographic profile of the sample

ITEMS	POLAND		UKRAINE		Total	
	n	%	n	%	n	%
Sample size	746	73.1	274	26.9	1024	100
Age						
18-24	534	71.6	196	71.5	730	71.6
25-35	123	16.5	41	15.0	164	16.1
36-45	45	6.0	22	8.0	67	6.6
46-55	36	4.8	10	3.6	46	4.5
>55	8	1.1	5	1.8	13	1.3
Gender						
Female	605	81.1	260	94.9	865	84.8
Male	141	18.9	14	5.1	155	15.2
Place of living						
City above 500 thousand inhabitants	338	45.3	26	9.5	364	35.7
City from 100 thousand to 500 thousand	105	14.1	39	14.2	144	14.1
Town from 40 thousand to 100 thousand	89	11.9	40	14.6	129	12.6
Town up to 40 thousand	137	18.4	55	20.1	192	18.8
Village	77	10.3	114	41.6	191	18.7
Financial situation [average rank]	4,82		4.84		4.82	
Educational level						
Master's degree	33	4.4	31	11.3	64	6.3
Higher Bachelor/Engineer	29	3.9	17	6.2	46	4.5
Secondary	413	55.4	61	22.3	474	46.5
Vocational	182	24.4	117	42.7	299	29.3
Elementary	89	11.9	48	17.5	137	13.4

Instrument development

The questionnaire consisted of a number of statements (Table 2). Each statement represented one observable variable measured with a 7-point Likert scale, where a value of 7 indicated 'strongly agree' and a value of 1 represented 'strongly disagree'. They all refer to the following areas, expressed in the research and based on the literature review:

1. Purchase intention towards natural cosmetics,
2. Attitude towards purchasing natural cosmetics,
3. Social norms,
4. Consumers' social responsibility,
5. Consumers' innovativeness,
6. Consumers' natural cosmetics knowledge,
7. Consumer's country of origin.

It is generally assumed that if the factor loadings are greater than 0.7 (Kline, 2015), the items explaining the constructs are well chosen. In our case, only in the purchase intention towards natural cosmetics (IPNC) construct, the item IPNC2 has a value of 0.663<0.7, but because of its importance (it tells about the price of cosmetics), we decided not to exclude it. All other items meet the requirement of the minimum value of a factor loading.

Table 2. Constructs and sources

Constructs and Sources	Items	Details	Outer Loadings
Purchase intention towards natural cosmetics (IPNC) (Ghazali et al., 2017; Hsu et al., 2017; Naszariah et al., 2021; Zhang, 2019)	IPNC1 IPNC2 IPNC3 IPNC4	I'm going to buy natural cosmetics when I go shopping next time. I'm willing to pay a higher price for a natural cosmetic product. I'll buy a natural cosmetic product, even if its price is higher. When I have two cosmetic products to choose, I buy the natural one.	0.828 0.663 0.753 0.849
Attitude towards purchasing natural cosmetics (ATNC) (Kumudhini & Kumaran, 2021; Lavuri et al., 2022; Mohd Suki, 2016; Scalco et al., 2017; Yadav & Pathak, 2016)	ATNC1 ATNC2 ATNC3 ATNC4	Natural cosmetics are good for my health. Natural cosmetics protect the planet. Natural cosmetics are safe for me. I choose natural cosmetics, because they are of better quality than the synthetic ones.	0.816 0.772 0.851 0.775
Social norms (SN) (Nikdavoodi, 2012; Pop et al., 2020; Yadav & Pathak, 2016)	SN1 SN2 SN3	My family believes that when I'm buying products, I should choose natural cosmetics. My friends believe that when I'm buying products, I should choose natural cosmetics. My doctor/hairdresser/barber/cosmetician believes that I should use natural cosmetics.	0.897 0.905 0.850
Consumers' innovativeness (CI) (Kaliyadan et al., 2021; Nikdavoodi, 2012; Puh, 2016)	CI1 CI2 CI3	I'm willing to buy new cosmetics brands. I'm willing to buy new products on the market. I'm interested in new trends in consumption.	0.843 0.849 0.800

Constructs and Sources	Items	Details	Outer Loadings
Consumer's social responsibility (CSR) (Chou et al., 2020; Yousoof et al., 2020; Uhlig et al., 2020)	CoNSR1 CoNSR2 CoNSR3 CoNSR4 CoNSR5	I choose cosmetics which are not tested on animals. I choose cosmetics which promote the respect for human rights. The production of natural cosmetics ensures the well-being of animals. The production of cosmetics should be eco-friendly. I'm willing to buy natural cosmetics, if a certain portion of revenue from their purchase is dedicated by the company for community purpose, e.g. to meet people's or animals' needs.	0.760 0.746 0.764 0.725 0.776
Consumer's natural cosmetics knowledge (CNCK) (Calderon-Monge et al., 2021; Lin et al., 2018; Mohd Suki, 2016; Yadav & Pathak, 2016)	CNCK1 CNCK2	I know regulations on cosmetics marking which are in force in my country. I've got knowledge of natural cosmetics.	0.841 0.874

Results of the research

Reliability and factor analyses

Data was analysed using the SPSS software, whereas the hypotheses were verified using the Smart PLS software (Cho et al., 2022). For the verification of the theoretical model, a model of causal relationships between constructs was used. The Partial Least Square (PLS) measurement model was applied. Mardia's test (Kankainen et al., 2004) shows that data did not conform to the desired multivariate normal distribution ($p < 0.001$). Hence, the application of PLS was necessary. Modelling was carried out to check whether all proposed items formed the constructs being built. Those which were hidden and did not meet the conditions (failed to achieve the minimum acceptable level) were rejected.

Average Variance Extracted (AVE), Composite Reliability (CR), Coefficient of Determination R^2, Cronbach's Alpha, Communality, Redundancy f^2 and Q^2 of the constructs were evaluated after the adjustments (Table 2). In this case, the essential criterion is the Coefficient of Determination, considered weak between 0.19 and 0.33, fair between 0.34 and 0.66, and strong when over 0.67 (Henseler et al., 2009).

What can be seen (Table 3) is that when $R^2 = 0.591 > 0.34$, then the intention to purchase natural cosmetics is explained fairly by the constructs proposed. The above aspect also demonstrated that items comprising individual constructs significantly reflect the perception of the construct by the respondents. The above results confirm that the AVE index is higher than the reference value (>0.50), whereas the CR and CA indices (>0.7) demonstrate that the constructs are well-adjusted in terms of quality (Hoyle, 1995). The only exception is CNCK, for which $CA = 0.641 < 0.7$. However, due to the fact that this construct is extremely

relevant for theoretical reasons and, in this case, consists of merely two items, it was not rejected. It is worth noting that CR and AVE have reached the required threshold values.

Table 3. Rates of AVE, CR, R2, Cronbach's Alpha communality, f2, Q2 of each contruct

	AVE	CR	R2	Cronbach´s Alpha	Communality	f2	Q2
ATNC	0.647	0.880	-	0.821	0.503	0.084	-
CI	0.691	0.870	-	0.777	0.471	0.108	-
CNCK	0.735	0.848	-	0.741	0.418	0.089	-
CSR	0.569	0.868	-	0.811	0.460	0.033	-
SN	0.782	0.915	-	0.860	0.737	0.082	
IPNC	0.603	0.858	0.591	0.777	0.546	-	0.349
Reference value	>0.50	>0.70	See above	>0.70	>0.40	Positive	Positive

Table 4. Discriminant validity

	ATNC	CI	CNCK	CSR	IPNC	SN
ATNC	*0.804					
CI	0.417	*0.831				
CNCK	0.276	0.320	*0.858			
CSR	0.542	0.477	0.307	*0.754		
IPNC	0.571	0.567	0.499	0.552	*0.777	
SN	0.431	0.360	0.418	0.396	0.560	*0.884

Note: *square root of AVE.

The square root of AVE for every construct was analysed along with the Pearson's correlation coefficients to confirm the differential significance of data (Fornell & Larcker, 1981). The model has discriminative accuracy, as AVE roots are higher than the Pearson's correlation coefficients. Table 4 shows that AVE roots are higher than correlations. The overall quality of the model was calculated using the GoF (Goodness-of-Fit) index, which is the geometric mean of the R2 average and AVE average (Tenenhaus et al., 2005). It totals 0.3953 and points to a well-adjusted model, as indices higher than 0.36 are suitable for Applied Social Sciences (Wetzels et al., 2009).
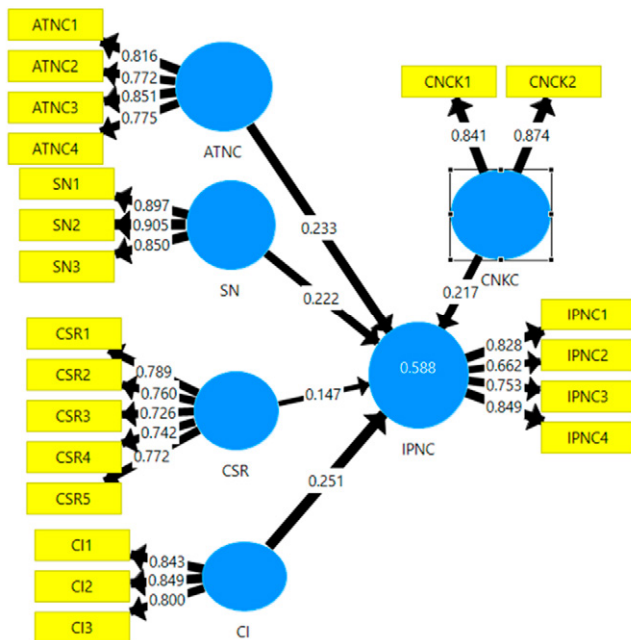
Figure 2. Empirical model

Table 5 demonstrates the results obtained for the proposed model (SRMR=0.072<0.08 and RMStheta=0.104<0.12), using bootstrapping.

Table 5. Path Coefficients

Path	Path Coefficients	Confidence Intervals	
		2.5%	97.5%
ATNC -> IPNC	0.233	0.181	0.285
CI -> IPNC	0.251	0.202	0.305
CNKC -> IPNC	0.217	0.163	0.262
CSR -> IPNC	0.147	0.089	0.203
SN -> IPNC	0.222	0.169	0.270

The results demonstrate that all identified constructs: attitudes towards purchasing natural cosmetics (ATNC), social norms (SN), consumer's innovativeness (CI), consumer's social responsibility (CSR) and consumer's natural cosmetics knowledge (CNCK) have statistically significant and positive effect on IPNC. That effect is the smallest in the case of CSR, whereas for all the remaining ones it is very comparable.

Hypotheses testing

When the quality of the model adjustment has been confirmed, conclusions regarding Path Coefficients and their significance can be used to verify the hypotheses presented (Table 6).

Table 6. Results for the hypotheses

Hypotheses	Path	Value	Decision
H1: Attitude towards purchasing natural cosmetics is significantly positively correlated with related to the purchase intention towards natural cosmetic products	ATNC -> IPNC	0.233 (p<0.001)	H1 supported
H2: Social norms has have a significant positive impact effect on the purchase intention towards natural cosmetic products	SN -> IPNC	0.222 (p<0.001)	H2 supported
H3: Consumer's innovativeness has a significant positive effect on the purchase intention towards natural cosmetic products	CI -> IPNC	0.251 (p<0.001)	H3 supported
H4: Consumer's' social responsibility is a significantly positively related to consumers' purchase intention for the towards natural cosmetic products	CSR -> IPNC	0.147 (p<0.001)	H4 supported
H5: Consumer's natural cosmetics knowledge moderates is a moderator of the attitude towards purchasing natural cosmetics, social norms, consumer's social responsibility, consumer's innovativeness and the purchase intention towards natural cosmetic products	CNKC -> IPNC CNKCxATNC->IPNC CNKCxSN -> IPNC CNKCxCI -> IPNC CNKCxCSR-> IPNC	0.217 -0.004 -0.044 -0.020 0.064	H5 not supported
H6: The customer's country of origin moderates the influence of various factors on the purchase intention towards natural cosmetic products	Table 7	p=0.041<0.005	H6 partly supported

In order to verify the H5 hypothesis, the model developed in that manner incorporated the moderation effect of CNCK throughout the constructs researched – ATNC, CI, CSR, SN – on IPNC. In all four cases, a statistically insignificant effect on IPNC was produced. Meanwhile it was not possible to confirm that knowledge exerts a moderation effect of respective constructs on IPNC. As a side outcome of these analyses, which were not given in the research, it was found that knowledge had a direct impact on purchase intention in the case of natural cosmetics.

As for the H6 hypothesis, which suggests that a respondent's country of origin moderates the effect of various factors on natural cosmetics purchase intention, a multigroup analysis in the SmartPLS software was performed. The multigroup analysis allows to test if pre-defined data groups have significant differences in their country-specific parameter estimates (Path Coefficients in Table 7).

Table 7. Multigroup analysis

Path	Path PL	Path UK	Total Effects-diff	p-value diff
ATNC -> IPNC	0.245	0.195	0.051	0.432
CI -> IPNC	**0.214**	**0.338**	**-0.124**	**0.041**
CNCK -> IPNC	0.229	0.172	0.057	0.295
CSR -> IPNC	0.151	0.162	-0.011	0.891
SN -> IPNC	0.225	0.201	0.023	0.678
ATNCxCNCK -> IPNC	0.033	-0.090	0.122	0.059
CIxCNCK -> IPNC	-0.037	0.002	-0.040	0.567
CSRxCNCK -> IPNC	0.054	0.078	-0.024	0.727
SNxCNCK -> IPNC	-0.043	-0.021	-0.022	0.701

The above results confirm that the significance of effect for respondents from these two different countries is identical. The only crucial difference in the presented model for Polish and Ukrainian respondents concerns the effect of CI on IPNC. As regards respondents from Ukraine, it is significantly stronger than for respondents from Poland. In the remaining cases, the strength of that effect does not vary significantly. If the table/graph/figure is the author's own work, the source is not given.

Discussion/Limitation and future research

Discussion

This research explores the predictors of purchase intention towards natural cosmetic products. Brands are more and more frequently referring to ecological and ethical values, as well as striving to become animal-friendly. At the same time, consumers are willing to purchase safe and high-quality products that have a good impact not only on the environment but also on human and animal well-being. The intention to purchase such products has grown due to a fear of the COVID-19 epidemic and health issues, which is confirmed by Chen et al. (2022).

This research investigates relationships between attitudes towards natural cosmetics, social norms, consumer innovativeness, consumer's social responsibility and consumer natural cosmetics knowledge on the one hand and the intention to purchase natural cosmetic products on the other.

The findings revealed that attitudes towards natural cosmetics and social norms reflect consumers' natural cosmetic product purchase intention. This

finding is related to Kian et al. (2021), who confirmed that attitude and subjective norms have a significant relationship with a customer's purchase intention towards organic personal care products. Similarly, Kumudhini and Kumaran (2021) verified that attitudes and subjective norms are significant predictors of purchase intention towards natural cosmetic products.

Consumers' innovativeness and consumers' natural cosmetics knowledge have a statistically significant and positive effect on the intention to purchase natural cosmetic products. Previous studies (Fu & Elliott, 2013; Mohd Suki, 2016) also corroborated these findings. The study also revealed that knowledge does not play a role between the independent variables under consideration and the intention to purchase natural cosmetics.

In this research, consumers' social responsibility has the smallest effect on consumers' natural cosmetic product purchase intention. Due to the fact that the research was conducted during the COVID-19 pandemic, the fear of being infected could reduce the social responsibility of consumers who paid greater attention to themselves, their health and safety. Another study (Syahrul & Mayangsari, 2020) also emphasised the fact that social values did not positively influence the motives for choosing natural cosmetics. Egoistic motives, such as care for health and safety in the COVID-19 pandemic, were stronger than social values. In countries such as Poland or Ukraine, social and environmental awareness is still developing. Companies should present natural cosmetics as innovative and safe products that protect the planet, society, and health.

These studies provide relevant information on the factors which explain consumers' behaviours in relation to natural cosmetics in Poland and Ukraine. In terms of many characteristics, the behaviours of consumers in these two researched markets did not vary considerably. However, significant differences were seen regarding the impact of consumer innovativeness on natural cosmetics purchase intention. On the one hand, consumers both from Poland and Ukraine have positive attitudes towards natural cosmetics. They regard them as products that are safe, good for health, high-quality and can protect the planet. On the other hand, Ukraine had the lowest internet penetration in Europe (Lone & Weltevreden, 2022). Online shopping also carries a higher risk than the traditional platform (Li & Kallas, 2021). Furthermore, the purchasing power of Ukrainian consumers is not sufficient, meaning that not many consumers can afford to buy such products without paying attention to their prices. Therefore, cosmetic product sales in Ukraine are generated, to a large extent, by budget brands (Awex Export, 2019). In developing countries, consumers' basic needs compete with environmental protection as well as social and ethical aspects, which may be a barrier preventing new product categories from being introduced. Marketers must develop an innovative mechanism to ensure steady growth of consumers' purchasing behaviours towards natural cosmetics. This research underlines the need for careful innovation management and appropriate image creation for natural cosmetic brands with a view to enhancing custom-

ers' satisfaction and their brand experience. Chornous and Gura (2014) refer to the fact that Ukrainian consumers have poor knowledge of innovative, ecofriendly products which are an alternative to traditional goods. A similar situation is observed in other countries from Central and Eastern Europe. Lithuanian studies (Pikturnienė & Mackelaitė, 2013) prove a low level of knowledge of natural and organic products. Dimitrova et al. (2009) perceive consumers from Bulgaria and Montenegro in a similar way and point to their poor knowledge of natural cosmetics. Environmental consumer education is necessary because purchasers have to understand the benefits of natural cosmetics for the planet. Poor consumer knowledge results in scepticism towards companies implementing cleaner production, as a consequence of which consumers decide not to choose a product or defer a purchasing decision. The level of acceptance would be higher if consumers found out how natural cosmetics can address environment-related issues.

Theoretical implications

The research provides deeper insight into factors clarifying buyer behaviour in the natural cosmetics market. The current analysis contributed towards the expansion of the investigation field on the evaluation of natural cosmetics purchase intention. Although several debates have been underway on the subject, there is only scanty evidence of the success or failure of the initiatives.

Practical implications

From the Central and Eastern European countries' perspective, the contribution provides useful information to various market participants, in particular, to companies manufacturing and selling sustainable products. This knowledge may support companies' contribution to CSR, strengthen relations with customers by raising their ecological and health awareness, ensuring security, eliminating concerns and properly communicating the attributes of natural cosmetics. This research can also support efforts made by non-profit organizations and governmental institutions aimed at promoting a sustainable and active lifestyle and increasing sensitivity to environmental protection, poverty, exploitation, and respect for human and animal rights, as well as providing preventive care. Understanding consumer behaviours is an important aspect of developing sustainable strategies in the cosmetics sector. Organisations implementing strategies designed to promote sustainable development improve their competitiveness.

Limitations

The study has some limitations. Firstly, a limitation is the lack of representativeness of the sample – despite its considerable size, it is not possible to generalise the results. Secondly, the current study was cross-sectional; it is cautionary to claim causal effects. Thirdly, the questions measuring particular constructs

were not always distinguishable for the respondents; sometimes, their answers were identical. Fourth, the study was conducted in Poland and Ukraine with significantly different sample sizes. National groups that significantly differ from each other in terms of place of residence. The findings might be more reflective of the phenomena in Poland, so the implications of this study must be cautioned. Finally, we use SEM, which cannot be used to prove that a model is correct. SEM has constraints and can omit important variables.

Directions for future research

Many studies investigating purchase behaviours towards sustainable products, e.g. Li and Kallas (2021), focused on the consumers' willingness to pay (WTP), which can be included in future research into consumers' behaviours with respect to natural cosmetics. Costa et al. (2021) and Kumudhini and Kumaran (2021) draw attention to the role of past behaviour in the growth of purchases of natural and green cosmetics, which points to the possibility of extending the factors clarifying the behaviours of natural cosmetics consumers. The issues seen in the Ukrainian cosmetics market include illegal labelling, unfair competition or fake products of well-known brands (Chornous & Gura, 2014), which may undermine confidence in natural cosmetics. In addition, Witek (2017) confirms distrust in organic and eco-friendly products in the Polish market. Hence, that factor can be incorporated into the model in the future to enhance its predictive power. If possible, future research may find it beneficial to monitor actual consumption behaviours in order to glean the most accurate indication of the intention to purchase natural cosmetic products.

Conclusions

Natural cosmetics represent a new trend with various certification and labelling systems. Hence, purchase behaviour can be influenced by the use of marketing instruments. However, these must be based on a fair specification of characteristics and benefits of natural cosmetics for the environment and society and use sales promotion to increase trust and improve direct product experience. Promotion has an important and powerful effect on consumer education and purchase behaviours of consumers buying natural cosmetic products (Vidhya & Ramesh, 2017). Market participants who extend knowledge to their prospective consumers will be perceived as eco-friendly, socially minded, and customer-oriented. Consumer education may combine natural cosmetics education with other areas relevant to people, such as fostering health and ecological awareness, promoting physical activity or increasing sensitivity to ethical issues.

Younger generations, which are the most sensitive to environmental, social and ethical issues and open to product innovations, as well as seek sensations, experiences and authenticity, are eager to share their brand experience with other consumers through social media.

The contribution of the authors

Conceptualization, L.W., G.K. and I.S.; literature review, L.W., G.K.; methodology, L.W., I.S., G.K.; formal analysis, I.S.; writing, L.W., G.K. and I.S.; conclusions and discussion, L.W., G.K. and I.S..

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W KIERUNKU ZRÓWNOWAŻONYCH ZAKUPÓW: WPŁYW ODPOWIEDZIALNOŚCI SPOŁECZNEJ, INNOWACYJNOŚCI I WIEDZY NA INTENCJE ZAKUPOWE KONSUMENTÓW KOSMETYKÓW NATURALNYCH

STRESZCZENIE: Celem artykułu jest poszerzenie wiedzy na temat czynników wpływających na zachowania zakupowe dotyczące kosmetyków naturalnych, a w szczególności określenie roli odpowiedzialności społecznej, innowacyjności i wiedzy konsumentów w kształtowaniu intencji zakupu tych produktów. Badanie wykorzystuje rozszerzoną Teorię Planowanego Zachowania jako ramy teoretyczne i opiera się na wsparciu teoretycznym i sugerowanych wskaźnikach modyfikacji. W badaniu zastosowano metodologię ilościową, w ramach której zebrano dane ankietowe z Ukrainy i Polski. Zostało przeanalizowane przy użyciu modelowania równań strukturalnych. Wyniki pokazują, że postawa wobec zakupu kosmetyków naturalnych, normy społeczne, innowacyjność konsumentów i wiedza konsumentów na temat kosmetyków naturalnych mają statystycznie istotny i pozytywny wpływ na zamiar zakupu naturalnych produktów kosmetycznych. Niniejsze badanie wnosi wkład do literatury poprzez włączenie innych zmiennych do modelu TPB. Dostarcza nowych spostrzeżeń i stanowi użyteczny krok naprzód w zrozumieniu zachowań konsumentów wobec kosmetyków naturalnych.

SŁOWA KLUCZOWE: kosmetyki naturalne, postawa, innowacyjność, odpowiedzialność społeczna, intencje zakupowe konsumentów