

Ewa WIĘCEK-JANKA\*, Sylwia ŁUKASZEWICZ\*\*, Maciej RACZAK\*\*,  
Zoily CRUZ SANCHEZ\*\*\*

**INFLUENCE OF PRODUCT CARDS CONSTRUCTION  
AND CONTENTS ON CUSTOMER PURCHASE INTENTIONS.  
STUDY BASED ON EXAMPLE OF HOUSEHOLD  
APPLIANCES IN ONLINE STORE**

DOI: 10.21008/j.0239-9415.2020.082.16

The e-commerce market is developing dynamically around the world. In Poland, in 2020, its value is estimated at PLN 70 billion. Compared to 2019, this is an increase of twenty billion, which shapes the growth dynamics at the level of 40 percent. The authors of the study asked themselves what is the impact of product cards and their content on the decisions of e-commerce market customers. The study presents the methodology and results of completed research on the content of product cards for selected categories of home appliances for the e-commerce market. The research was carried out in a specially created environment of the online store, functionalities of which corresponded to the ones of leading stores on the Polish market. Nine offers in three product categories were examined. The purpose of the study was to examine the factors influencing the purchasing decisions of a potential customer during the online purchase process. The impact of product card composition on purchasing decisions was assessed, taking into account individual age groups and gender of respondents. The obtained results showed significant differences in purchasing decisions between *basic* and *rich content* cards. Additionally, for a group of household appliances, there is a relation between the demographic characteristics and purchasing decisions of customers on the e-commerce market.

**Keywords:** online purchase, e-commerce, product cards, rich content

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\* Poznan University of Technology, Faculty of Engineering Management, ORCID: 0000-0002-5596-307X.

\*\* Neuromarketing Laboratory, AF.agency.

\*\*\* Universidad Autónoma de Chiapas, México.

## 1. INTRODUCTION

*Digital trade, e-trade and e-commerce* are the same terms and are used interchangeably in both colloquial language and scientific publications. The “Polish Dictionary” defines e-commerce as “trading via the Internet”. The most popular forms of e-commerce include sales through online stores, auction sites and classifieds websites. The e-commerce market is developing very dynamically in Poland. Polish consumers are buying more and more online – in 2017, 54% of internet users made online purchases, in 2018 – 56% and in 2019 – 62% (*E-Commerce w Polsce*, 2019). The number of e-stores is increasing every year and their offer is growing significantly. The constantly increasing availability of the Internet is also important for the development of e-commerce. Currently, 84.2% of households have access to the Internet (GUS, 2019, 123), which in the last 5 years means an increase of almost 10 percentage points.

As a result of technological development, the customer’s shopping experience is changing. Their awareness and expectations are increasing, which owners of online stores cannot ignore if they want to build loyalty with existing customers and acquire new ones. Consumers are becoming more demanding and are paying significantly more attention to details that did not seem so important a few years ago. When mentioning factors that motivate them to shop more often, immediately after the cost and time of delivery or price online customers indicate: more detailed product descriptions (22%), the opportunity to see products (20%), better product photos (18%), more product information on e-store pages (15%) (*E-Commerce w Polsce*, 2019, 112).

Regardless of the shopping path chosen by Internet users and the way they search for offers, all paths ultimately lead to a product card which is a key element an online store cannot exist without (Mitrevski, Hristoski, 2011). The purpose of the product card is to convince the customer to make a purchase. One of the problems with online sales is the inability to take a closer look at the product. Therefore, it is important that the product card replaces the activities that the customer performs in a traditional store: reading information on the labels, touching, checking the material a product is made of, asking the seller questions, etc. The information contained in the product card and how the product can be presented can decide whether a consumer will eventually buy the product.

A product card should contain such basic elements as product name, price, description, visual presentation of the product, technical data, reviews, CTA button (Call To Action in this case “add to cart”), additionally it may present, e.g. complaint rules, complementary products. Optimization of product cards (e.g. in terms of composition and description) can have a significant impact on conversion in an

e-store and sales in a traditional store (ROPO effect)<sup>1</sup>. Cards with poor descriptions, product photos and additional information (*basic* product cards) increase the risk of leaving the store. Meanwhile, the more the consumer finds out about the product in an accessible way, the less he will need to look further. For this reason, it is extremely important to use *rich content* in online stores. Cards which are transparent, aesthetically composed, with extensive and valuable descriptions, interactive visualizations, examples of product applications (*rich content* cards) not only inspire greater trust and provide information about the product, but also engage users and evoke the desire to own a given product.

The research problem of this article is the analysis and assessment of the impact of the product card's composition on purchasing decisions, taking into account individual age groups and gender of respondents. The goal is to examine the factors influencing the purchasing decisions of a potential customer making an online purchase. The study was conducted using product cards of household appliances. The CSO publication indicates that the second group of the most popular goods bought via the Internet is the "other equipment" category under which furniture, vehicles, household appliances, gardening, hobby, tools are classified. In 2018 these products were acquired by 40.5% of people during online shopping (GUS, 2019, 15).

## 2. RESEARCH METHODOLOGY

### 2.1. Research goals and hypotheses

The aim of the study is to define what the product card should look like in an online store so that it creates the most incentive to buy, for users of different ages, different gender and social status. A detailed analysis of the collected data is designed to familiarize producers and e-shop owners with customer preferences and determine the variables affecting their purchasing decisions, regardless of the presented product price.

Two basic research problems were formulated. The first is the analysis and assessment of the impact of the respondents' demographic data on the selection of specific content on the product card. The second research problem is the analysis

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<sup>1</sup> ROPO (Research On-line Purchase Off-line) means searching for information about products on the Internet before making a purchase in stationary stores (Piorunowska-Kokoszko, 2014). Research conducted as part of the statutory research of the Department of Market and Consumption of the University of Economics in Katowice in 2013–2015 in the project entitled Trade and services in Europe. The diagnosis and development prospects indicate that in the process of purchasing material goods, in the case of RTV / household appliances, the ROPO effect occurs among 41.1% of respondents. Direct research was carried out using the questionnaire technique distributed on a sample of 1100 people (Wolny, 2016).

and assessment of the impact of demographic data on the distribution of the most important features that guide them during the purchasing process. Defined research problems and the literature analysis led to the formulation of the following research hypotheses:

- there is an impact of the social status of the respondents on their choice of specific product card content;
- there is an impact of the gender of the respondents on their selection of specific product card content;
- there is an impact of the age of the respondents on their selection of specific product card content;
- there is an impact of the social status of the respondents on the distribution of characteristics that guide them during the purchasing process;
- there is an impact of gender on the distribution of traits used by the respondents when shopping;
- there is an impact of the age of the respondents on the distribution of traits they use during the purchasing process.

## 2.2. Characteristics of the research sample

The sample examined was 228 respondents. This is the minimum sample size calculated for a population of 5 million (Western Poland). It was assumed that the results obtained can be considered 95% reliable, therefore the alpha confidence level is 0.95. The estimation error is 5%. It was estimated that the examined feature occurs in 80% of the population, i.e. 80% of respondents made purchasing decisions regarding household appliances at least once in their life, so the fraction size is 0.8 (Więcek-Janka, 2015).

$$n = \frac{P(1-P)}{\frac{e^2}{Z^2} + \frac{P(1-P)}{N}}$$

where:  $P$  – expected share of the studied phenomenon in the population,  $e$  – standard error of estimation,  $Z$  – value calculated on the basis of the adopted confidence level (for the recommended minimum level, i.e. 95%, it is 1.96),  $N$  – population size.

The selection of typical individuals with convenient access was chosen as the sampling method. The surveyed sample included 58.33% women and 41.67% men (Tab. 1).

The surveyed individuals are adults, over 18 years old, real customers of potential online stores with household appliances. The largest group consisted of people aged up to 25 – over 46%. The respondents also included 35.96% of people aged 45 and over, 16.67% in the age group 36–45 and 1.31% of people aged 26–35.

Table 1. Gender of respondents of the survey on the impact of content contained in product cards on shopping intentions

Specification	Quantity	Percentage
Female	95	58,33
Male	133	41,67
Sum	228	100

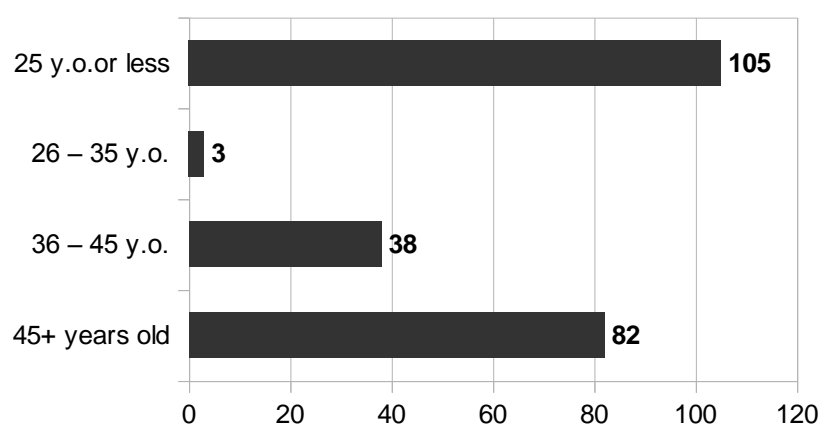


Fig. 1. Share of respondents by age

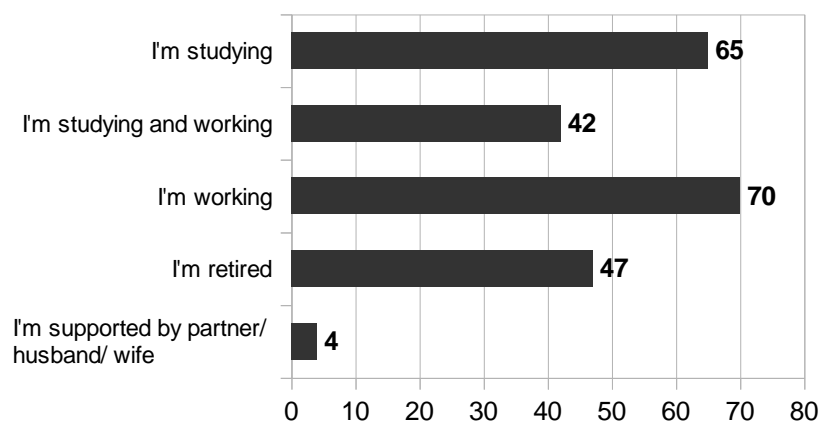


Fig. 2. Share of respondents by social status

In terms of social status, the largest group was represented by the working group, which accounted for 30.70% of respondents, while the smallest group consisted of those dependent on the husband/wife (partner) – 1.75%. The study also included people working and studying at the same time – 18.42%, studying – 28.50% and retired – 20.61%.

All questionnaires were correctly completed by respondents – 228 questionnaires were collected.

### **2.3. The research progress**

The basis of the study was a previously prepared scenario presenting the required actions step by step. The research was carried out in three stages: selection, proper research, preparation of results.

At the selection stage, people were selected for the study. In the interviews, their consent was obtained to participate in the study. The next stage of actual research, i.e. anonymous survey research, was conducted from January 1 until March 31, 2019. The respondents were informed about the purpose of the research, their anonymity and voluntariness. The survey was conducted using a survey method and the research technique was a direct survey using an electronic survey on Google Forms tools. Respondents completed the questionnaire themselves in the presence of researchers, who in case of questions answered them. The last stage – processing of results – consisted of statistical processing of results in Microsoft Office Excel 2007.

The main task of each respondent was to compare and evaluate the diversified product cards of nine household items located in an online store, which was specially prepared for research purposes. The store reflected one of the most popular Polish e-stores with home appliances and electronics. Access to the store's website was only possible after entering the token (identification number) assigned to the examined person.

The respondents' task was to familiarize themselves with the product cards and assess the attractiveness of the products according to the completeness of the information presented in their cards. The respondents rated successively three household items, differing in the appearance of the product card, from three categories: ovens (X), refrigerators (Y), stoves (Z). To maintain homogeneity of the study and exclude the impact of price on decision making, it was ensured that the prices of all compared products were the same, so that they would not be the deciding factor of selection by the respondent. Other parameters have also been unified, such as: delivery time, the option of instalment purchase and user reviews.

The study was conducted using a four-part questionnaire. Three parts were devoted to subsequent product categories (X, Y, Z). Each of them contains:

- 4 questions in which the respondent was to assess the products according to a 5-point rating scale (1 is “very bad”, 5 is “very good”),
- 1 question in which the respondent indicated which of the three products he/she would be willing to choose,
- 1 open question in which the respondent justified the choice of a specific product or described the factors affecting it.

The fourth part of the survey was aimed at obtaining information about respondents, i.e. gender, age range, and social status. In addition, this part includes a question about the most important equipment features which attracted respondents during the purchase. Features that are rated on a 5-point scale include: price, quality, durability, reliability, design, and technical innovations.

Each time after viewing the product cards of three appliances from one category (X or Y or Z), the respondent completed the part of the questionnaire regarding the given category.

### 3. STUDY ANALYSIS

The shape of the questionnaire used in the survey and the issues contained in it meet major problems primarily from the point of view of product card designers and online store owners. The survey provides important information about the purchasing preferences of various age groups and those aspects of product cards that have a direct impact on the receipt of information by customers. Respondents got acquainted with rich content type product cards (e.g. XB, YA, ZA) and basic type (XC, YC, ZC), where X, Y, Z are product categories and A, B, C are product brands.

#### 3.1. General product description

The first repeated survey question for each product category (X, Y, Z) concerned the assessment of the general description of the product presented on the card. The respondents gave grades from 1 to 5, where 1 is “very bad” and 5 is “very good”. A summary of the results of the assessments is presented below in the graph illustrating the answers given by the respondents in relation to cards of specific household items (Fig. 3).

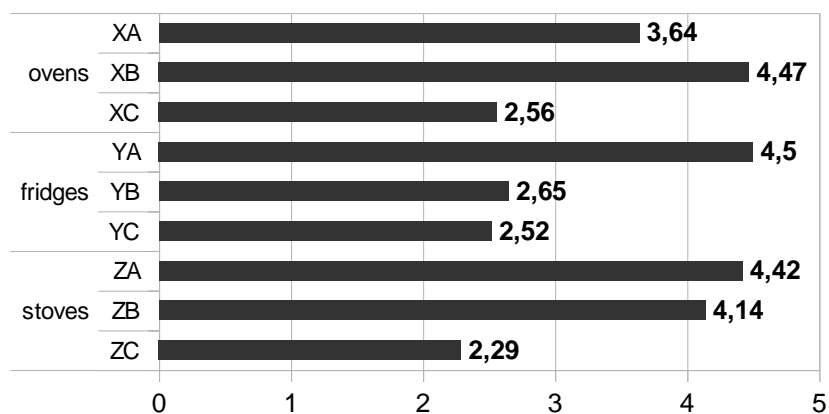


Fig. 3. General product description rating

The highest rating among built-in ovens was given to the XB oven – average rating 4.47; YA fridge among refrigerators – average rating 4.5; ZA stoves – average rating 4.47. Both the XB oven, the XA fridge and the ZA stove are products from one manufacturer who attaches importance to the presentation of their products and presents them on *rich content* cards. Descriptions of these products are very extensive. Clear paragraphs, font selection and differentiation, use of colour, interlacing the description with graphics and photos makes it easy to read information and learn key product data (Fig. 4).

Appropriate editing of descriptions for the needs of the online store and the use of the language of benefits has an impact on high notes. Each important feature of the product shows its benefits and benefits for the customer. Examples are shown in Table 2.



Informacja o produkcie	Opinie	Promocje	Dopasowane akcesoria	Gwarancja	Raty	Zestawy	Usługi do produktu
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**Kuchnia** [redacted]

**KUCHNIA** [redacted] o pojemności XXL [redacted]

Powiększona przestrzeń, dzięki pojemności XXL i oszczędność czasu z szybkim nagrzewem



Sprawdź, co możesz zyskać, wybierając kuchnię gazowo-elektryczną wolnostojącą O POJEMNOŚCI XXL



**BEZPIECZEŃSTWO**

**Chłodny front (3 szyby)**

Jeszcze niższa temperatura drzwi kuchni, dla bezpieczeństwa Twojego i Twoich najbliższych.

**Prowadnice teleskopowe**

Swoboda użytkowania i bezpieczeństwo, podczas wyciągania mocno obciążonych blach.



**EKOLOGIA**

**Klasa energetyczna A**

Niższe rachunki za energię elektryczną i troska o środowisko naturalne, dzięki klasie energetycznej A.



**TECHNOLOGIA**

**Programator TA**

Zapewnia swobodę programowania godziny wyłączenia oraz czas grzania kuchni.

**Szybki nagrzew**

Pozwala na osiągnięcie pożądanej temperatury w jak najkrótszym czasie.



**KOMFORT**

**Pojemność XXL**

Łatwiejsze przyrządzanie dużych porcji potraw, dzięki zwiększonej pojemności urządzenia.

**Emalia łatwoczyszcząca EasyClean**

Wyjątkowa estetyka wnętrza komory piekarnika i wygoda jego czyszczenia, dzięki Emalii łatwoczyszczącej EasyClean.

Fig. 4. Example of a product description on a rich content card

Table 2. Example of description on product cards, which achieved the highest grades in terms of general description

	<b>Refrigerator XA</b>	<b>Oven XB</b>	<b>Stove ZA</b>
<b>Product feature</b>	„no frost” technology	„cold front” technology	„fast heating” technology
<b>Product advantage</b>	extended product freshness, no defrosting required	the glass temperature does not exceed 35° C, ventilation channels system ensures the flow of cold air between the glass panes	stove reaches a temperature of 150° C in only 4 min.
<b>Customer benefit</b>	time and money saving	safety of use, the ability to watch food up close	fast meal preparation

Descriptions of the lowest rated products: XC oven, YC fridge, ZC stove are products of two different brands. Their presentation is limited to a short and simple description of the product followed by a specification in the form of a table (Fig. 5) Respondents declared that lines of compact text do not attract their attention. It is difficult to identify the most important advantages and possibilities of using the product from such a description.

Informacje o produkcie
Opinie
Promocje
Gwarancje
Raty
Zestawy

**Kuchnia** [redacted]

Kuchnia elektryczna [redacted] o szerokości 60, w klasie energetycznej a, pojemności 60 litrów to idealny asystent w Twojej kuchni. Niezwykle funkcjonalna w środku i bardzo elegancka na zewnątrz. Trzy możliwe kombinacje funkcji dzięki grzałce górnej, dolnej i termoobiegowi! Mechaniczny programator pozwoli Ci w prosty sposób całkowicie dostosować piekarnik do swoich potrzeb. Dodatkowo wewnętrzne oświetlenie sprawi, że korzystanie z niego to czysta przyjemność! Urządzenie zostało świetnie zaprojektowane także w środku. Teraz bez trudu dostosujesz jego wnętrze do swoich potrzeb, by zmieścić w nim nawet wysokie naczynia lub bardzo duże potrawy. Imponujące 60 litrów pojemności, które zorganizujesz dokładnie tak, jak sobie życzysz.

Specyfikacja

Dane techniczne:

Fig. 5. Example of a product description on a basic product card

### 3.2. Detailed product description

In the next survey question, respondents evaluated detailed descriptions of products in three categories. The results are shown in Fig. 6. The same products achieved the highest grades, which were also rated high in terms of general de-

scription. In the group of ovens, the highest grade was obtained by the XB product – average grade 4.57; YA product in the category of refrigerators – average rating 4.66; among the stoves, the highest rated was ZA – 4.58.

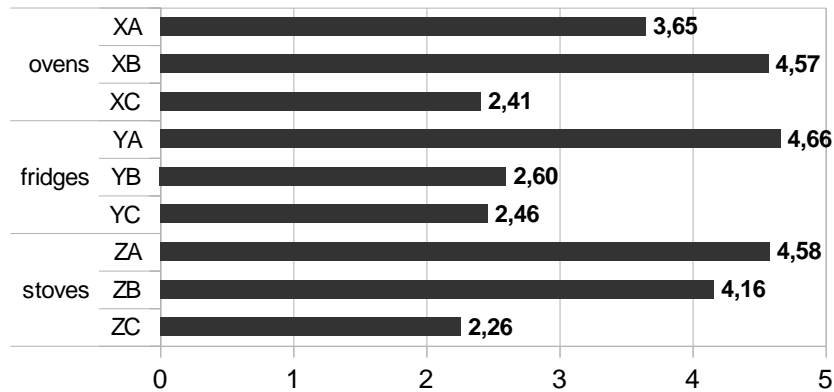


Fig. 6. Evaluation of a detailed product description

Product cards XB, YA, ZA in terms of detailed description differ significantly from other product cards. They include, among others, answers to frequently asked questions, explanations of individual product functions, useful application tips, instructions, tips and information about the brand. Product features are described in a way that makes it easier to understand how a product of this brand differs from similar products from other manufacturers. This allows the buyer to choose the product that best suits his needs.

Detailed descriptions of product cards that received the lowest ratings: XC – 2.41; YC – 2.46; ZC – 2.26 were limited mainly to technical tabular data sets. Such a presentation, although characterized by high transparency, is not legible for everyone. Is the device noise at 42 dB high or low? Is one cooling unit in the refrigerator a good solution or should there be two? Professional expressions left without an explanation discourage most buyers.

### 3.3. Product presentation

The third question to the respondents concerned how they evaluate the presentation of products. Among the ovens, the presentation of the XB oven with the average rating of 4.67 was rated the highest. Among the refrigerators, the YA fridge gained a significant point advantage over others – a rating of 4.70. The highest

rated cooker in terms of presentation turned out to be the cooker ZA – 4.62. The results are presented in Fig. 7.

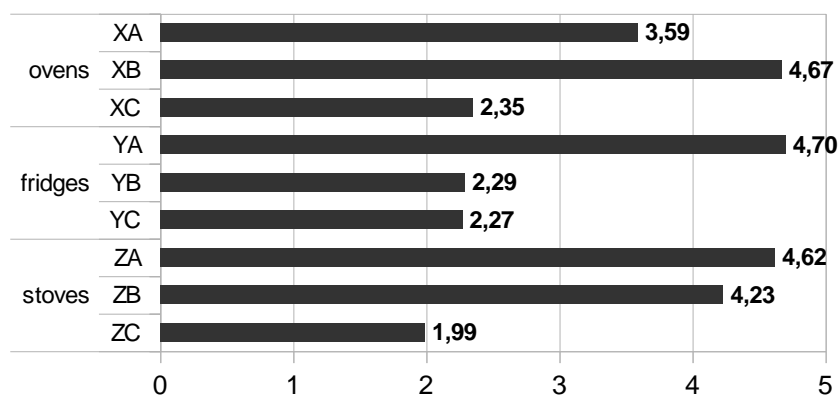


Fig. 7. Evaluation of a product presentation

In all product presentations that received a high rating, in addition to general product photos, product detail photos, 3D animations, videos, graphics showing the product in a dedicated environment and interactive graphics were used. The animations enabled the viewing of the product from the outside and inside. Respondents could check the appearance of the equipment by themselves by clicking the OPEN / CLOSE button (Fig. 8).

In the refrigerator category, a high difference was observed between the highest-rated YA (4.7) presentation and the other YB (2.29 rating) and YC (2.27 rating). Some respondents indicated after completing the questionnaires that the YB and YC product cards were “too empty”. Indeed, both products were presented only by three photographs showing in the plan a closed and open fridge. There were no food items in the open fridge, which could heighten the card's sense of emptiness and austerity. Additionally, no interactive graphics, animations or films were used in the XC, YC and ZC cards.

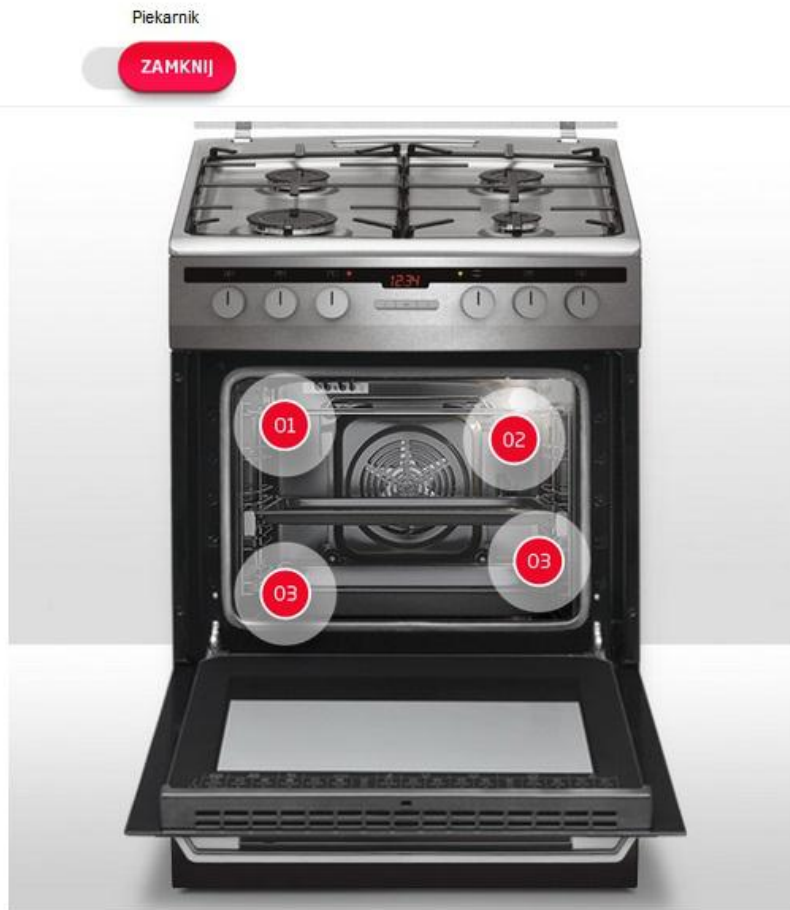


Fig. 8. Interactive product visualisation

### 3.4. Product cards' composition

The product cards with the highest scores in terms of composition are the XB oven cards (4.43 rating), YA refrigerators (4.6 rating) and ZA cookers (4.48 rating). Figure 9 shows the results.

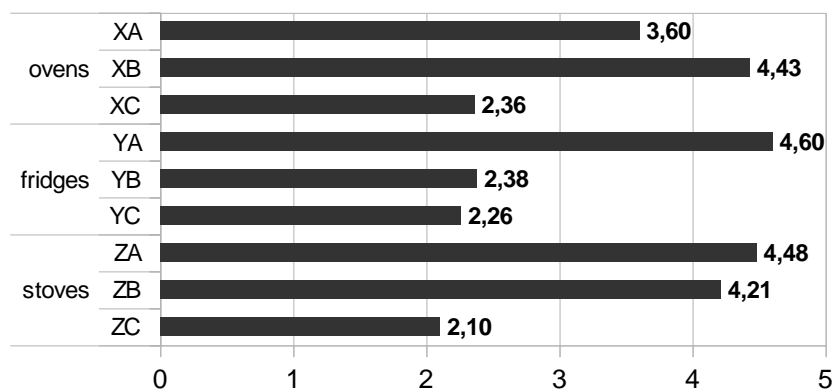


Fig. 9. Evaluation of a product card's composition

In terms of composition, the XB, YA, ZA cards are similar. It is worth reminding here that they are products of the same brand, hence their similar style. The individual elements of these cards are put together in a way so that they form a “harmonious whole”. The product card begins with the product name and descriptive information about the product and its visualization. Then the most important features and advantages are presented, interactive graphics present the product from the outside and inside. The next segment of the card includes the most important product features shown by means of photos and graphics as well as explanatory descriptions. The following are additional features of the product in the form of interactive icons – the customer can expand those options that interest him and learn more about them (Fig. 10). At the bottom of the card, information about the brand appears with links to other products of the same brand, e.g. on the fridge card it is possible to go to cookers, hoods, microwaves, etc. The product card XB, YA, ZA ends with the technical specification in the form of a table.

For comparison, the cards rated lower in terms of composition had lower content of text and illustrations, which made them much shorter. In many cases, they were limited to just a few photographs and a few sentences of description followed by a table with the technical specification.

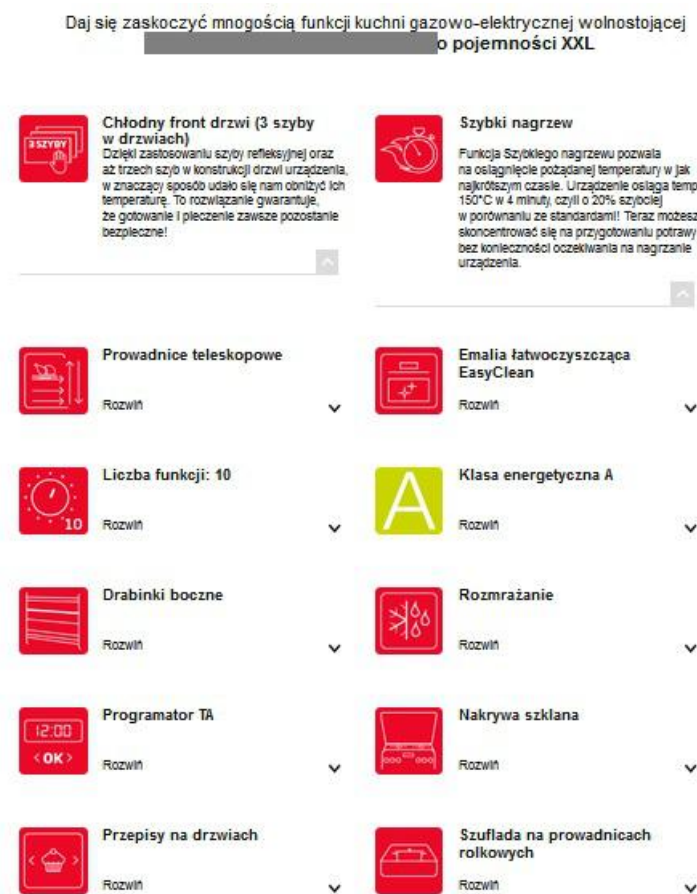


Fig. 10. Product functions presented as interactive icons

### 3.5. Product selection

The task of the respondents was to indicate one product from each category that they would be willing to buy after familiarizing themselves with the product cards. The results of the decision are presented in Figures 11, 12, 13. Among ovens, the most respondents chose the XB product – 75%. YA fridge was indicated by 84% of respondents, while 60% of respondents declared buying the ZA stove. Product cards XB, YA, ZA were previously highly rated in terms of description, detailed description, presentation and composition.

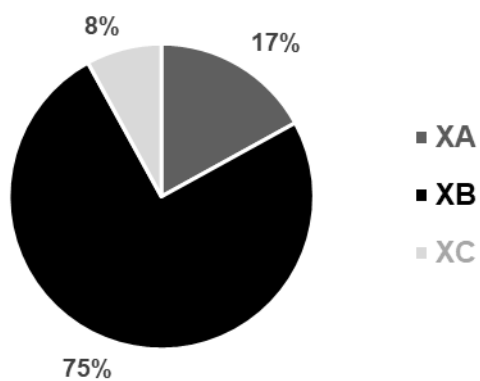


Fig. 11. Product selection in the ovens category

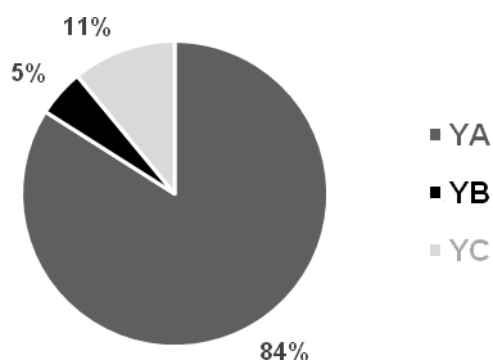


Fig. 12. Product selection in the fridge category

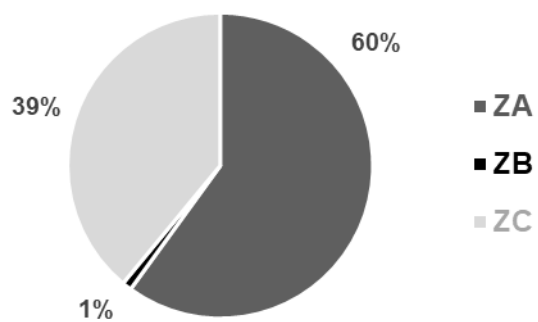


Fig. 13. Product selection in the stove category



### 3.6. Features that determine the choice of a given product

In the case of the oven, the most important feature determining its choice turned out to be the presentation of the product, indicated by 43% of respondents (Fig. 14). It is significant that the XB product card uses interactive animations that allow you to look closely at the equipment and its interior, e.g. how to highlight the layout of baking trays. The respondents also indicated that icons indicating the product's functions and referring to the legend were highly useful in the decision-making process.

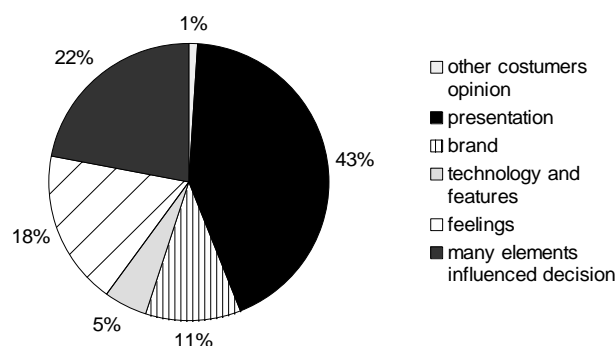


Fig. 14. Features that determine the choice of a specific oven

The way the refrigerator was presented also turned out to be important for 48% of respondents who determined that it was the decisive feature while choosing a specific fridge model (Fig. 15). Answering an open question, the respondents indicated that in the presentation of the XC and XB fridge the descriptions were poor and the number of photos presenting the product was insufficient. There was also a lack of visualization of the fridge in a dedicated environment.

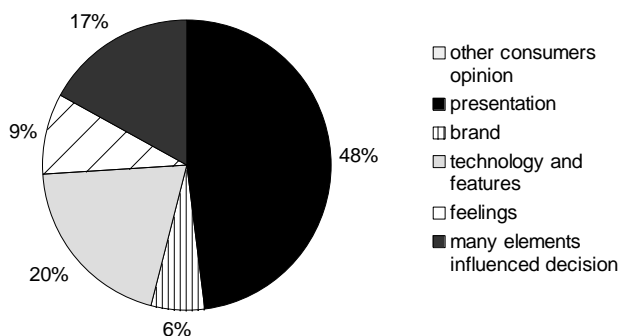


Fig. 15. Features that determine the choice of a specific fridge

In the case of stoves, the most important factor while choosing a particular model was the presentation – as declared by 32% of respondents (Fig. 16). The respondents particularly appreciated the opportunity to view product details, interactivity and transparent explanations of product functions.

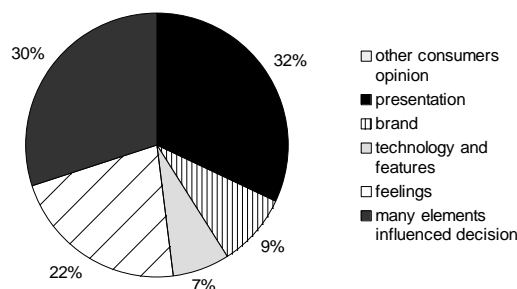


Fig. 16. Features that determine the choice of a specific stove

### 3.7. The importance of features that determine the choice of a given product

The survey asked a question about the distribution of attributes important to the respondents while shopping. The respondents' task was to assess the attributes' importance on a scale of 1 to 5, where 1 meant "I do not take this into account" and 5 indicated that it was "an important feature". The average ratings are presented in the chart below (Fig. 17). The most important attribute deciding about the choice of a given product was the quality which was awarded a grade of 4.63; then durability – with a 4.47 rating and reliability – which was rated 4.39. Other rated features include price, design and technical novelty.

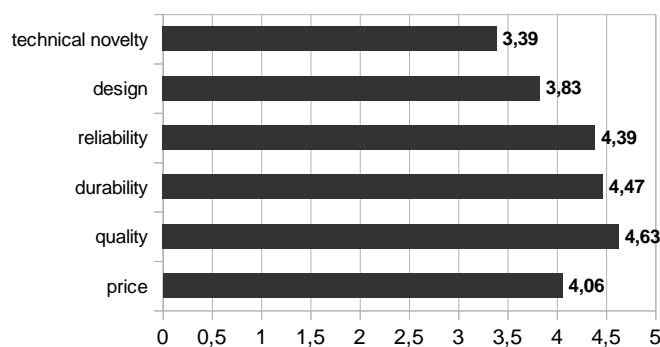


Fig. 17. Evaluation of the importance of individual features determining the choice of product

Respondents in relation to each product category answered open questions, which explained such a choice of a specific product. The answers have been grouped and divided into general categories (such as: assessment of other customers, presentation, brand, technology, construction properties, feelings) and detailed categories. In a situation where the respondent listed several decisive factors, the value of his answers was evenly distributed to all of them, e.g. if someone mentioned 4 different factors, each of them was counted in their category as 0.25. For the analysis, votes not classified in any category were omitted.

The XC oven stands out from other products primarily due to its design reminiscent of retro style. Respondents who indicated that they would choose an XC oven rather than others, declared that their decision (74%) was influenced by their feelings, mainly the belief in the product's attractiveness (Fig. 18).

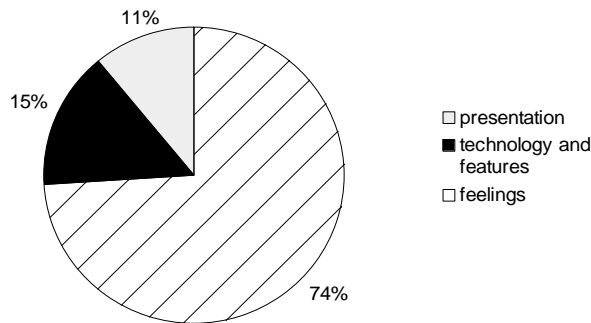


Fig. 18. Features that determine the choice of an XC oven

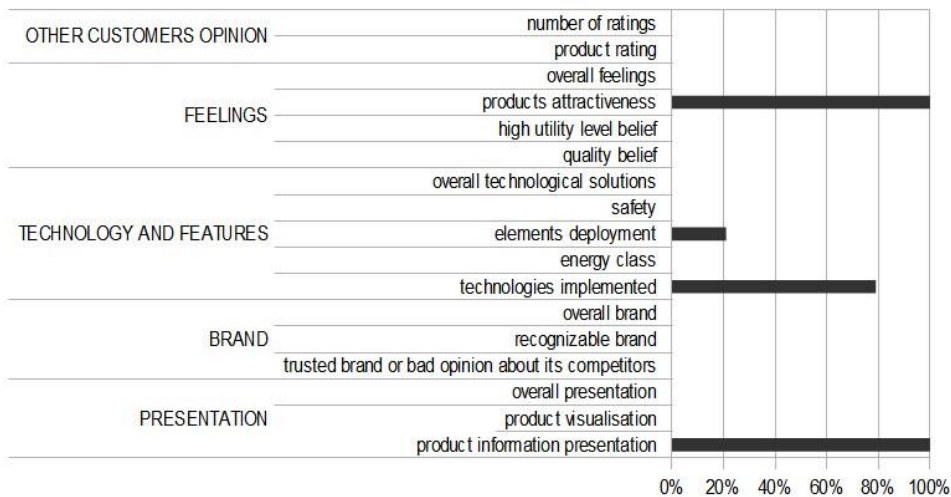


Fig. 19. Detailed distribution of the features included in the categories shown in figure 18

Of the respondents who indicated that they would be the most willing to buy an XB oven (Fig. 20), 61% declared that the presentation of equipment was of the greatest importance to them. For the manufacturer, this may mean that he uses a good strategy by presenting the equipment on a rich content type card, because it was the card, not the technologies used or the brand recognition that had the strongest impact on the shopping intentions of the respondents.

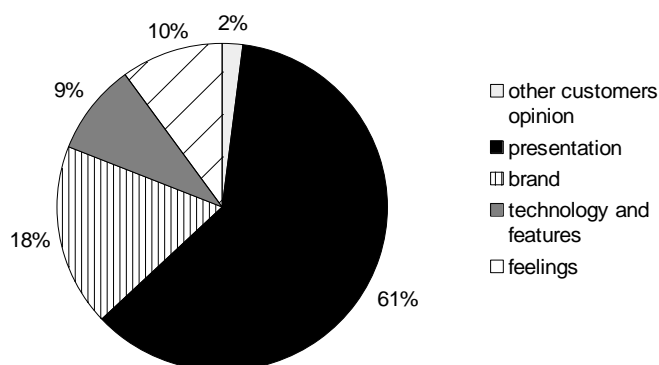


Fig. 20. Features that determine the choice of an XB oven

#### 4. VERIFICATION OF HYPOTHESES

In the study, the extensive research material obtained allowed the author to verify the hypotheses. The hypotheses set out in the study are presented in Table 3 and related to the existence of a relationship between demographic characteristics (independent variables): gender, age, social status and the variables studied (dependent variables): content of the product card, design of the product card, product characteristics (which customers are guided by).

Table 3. Hypotheses in the study

Formulated hypotheses	
H1	There is an impact of the respondents' social status on their choice of the specific product card type (basic/rich content).
H2	There is an impact of the respondents' gender on their selection of the specific product card type (basic/rich content).
H3	There is an impact of the respondents' age on their selection of the specific product card type (basic/rich content).

Table 3 Continue

Formulated hypotheses	
H4	There is an impact of the respondents' social status on the distribution of traits that guide them during the purchase process.
H5	There is an impact of the respondents' gender on the distribution of traits that guide them during the purchase process.
H6	There is an impact of the respondents' age on the distribution of traits that guide them during the purchase process.

Due to the use of an ordinal scale (grades) in the research tool, the study used the non-parametric chi square test. In addition, indicators for the strength of the relationship between the examined variables: C-Pearson and V-Cramer were calculated. The testing results are presented in the following tables (Tab. 4 to Tab. 7).

Table 4. Results of statistical tests carried out for H1, H2, H3 hypotheses

Hypothesis	Product category	Chi-square test value	V-Cramer value	C-Pearson value	p	alpha	Verif.
H1	stoves	17,66	0,23	0,26	0,000	0,05	OK
	fridges	37,73	0,34	0,37	0,000	0,05	OK
	ovens	17,665	0,23	0,27	0,023	0,05	OK
H2	stoves	1,14	0,07	0,07	0,565	0,05	–
	fridges	5,50	0,15	0,15	0,063	0,05	–
	ovens	1,73	0,08	0,08	0,420	0,05	–
H3	stoves	6,05	0,13	0,16	0,417	0,05	–
	fridges	27,13	0,29	0,32	0,000	0,05	OK
	ovens	12,23	0,19	0,22	0,056	0,05	–

Hypothesis testing allowed the following conclusions.

For the H1 hypothesis, according to the results obtained, it can be determined that the relationship between social status and the choice of specific content of the product card occurs for each of the types of products analysed. The strength of the

relationship between the variables should be considered as average (0.23) and high (0.34) calculated with the V-Cramer coefficient. Similar values were obtained using the C-Pearson coefficient.

For the H2 hypothesis, according to the results obtained, it can be concluded that there is no relationship between gender and the choice of specific content of the product card for each of the types of products analysed.

For the H3 hypothesis, according to the results obtained, the relationship between gender and the choice of specific content of the product card does not occur in the case of stoves and ovens, but occurs for refrigerators.

The following hypotheses (4–6) relate to the distribution of attributes that the respondents use during shopping. The survey underlined: price, quality, durability, reliability, design and technical innovations. The respondents were to assess their importance on a rating scale from 1 to 5. The average ratings for the importance of individual features determining the choice of this and not another product are shown in Fig. 17.

Table 5. Results of statistical surveys carried out for the H4 hypothesis

Hypothesis	Product feature	Test value chi-squared	Coefficient value V-Cramer	Coefficient value c-Pearson	p	alpha	Verif.
<b>H4</b>	price	39,35	0,29	0,38	0,000	0,05	OK
	quality	17,49	0,21	0,26	0,13	0,05	–
	durability	31,08	0,26	0,34	0,013	0,05	OK
	reliability	19,24	0,20	0,17	0,255	0,05	–
	design	45,37	0,31	0,40	0,000	0,05	OK
	technical innovations	47,55	0,32	0,40	0,000	0,05	OK

For the H4 hypothesis, according to the results obtained, a relationship between the impact of social status on the distribution of characteristics that guide respondents during the purchasing process does not exist only for quality and reliability. In other categories (price, durability, design, technical novelties) this relationship is clearly visible, with the simultaneous average and large strength of the relationship between the studied variables as calculated with the V-Cramer and C-Pearson coefficients.

Table 6. Results of statistical tests carried out for the H5 hypothesis

Hypothesis	Product feature	Test value chi-squared	Coefficient value V-Cramer	Coefficient value c-Pearson	p	alpha	Verif.
H5	price	3,31	0,12	0,12	0,506	0,05	–
	quality	2,20	0,09	0,09	0,530	0,05	–
	durability	8,19	0,18	0,18	0,084	0,05	–
	reliability	4,76	0,14	0,14	0,312	0,05	–
	design	3,733	0,12	0,12	0,442	0,05	–
	technical innovations	3,09	0,11	0,11	0,542	0,05	–

For the H5 hypothesis, the obtained results indicate a lack of relationship between gender and the distribution of traits guided by the respondents during the purchasing process.

Table 7. Results of statistical tests carried out for the H6 hypothesis

Hypothesis	Product feature	Test value chi-squared	Coefficient value V-Cramer	Coefficient value c-Pearson	p	alpha	Verif.
H6	price	23,44	0,24	0,3	0,024	0,05	OK
	quality	7,30	0,13	0,17	0,605	0,05	–
	durability	24,22	0,24	0,3	0,018	0,05	OK
	reliability	20,17	0,22	0,28	0,063	0,05	–
	design	18,00	0,21	0,27	0,115	0,05	–
	technical innovations	32,628	0,28	0,35	0,001	0,05	OK

For the H6 hypothesis, the results obtained indicate a relationship between age and traits guided by the respondents during the purchasing process: price, durability and technical innovations. The strength of the relationship calculated with the V-Cramer and C-Pearson coefficients is at a medium and high level. For the remaining features (quality, reliability, design) this relationship does not occur.

## 5. THE SUMMARY

The study presents the methodology of research carried out by the survey method, using the direct survey technique and the electronic questionnaire as a tool. The collected raw data was tabulated and then analysed. The goal of analysing and assessing the impact of product card compositions on purchasing decisions was met, taking into account selected demographic features, as well as answering the research problem posed, which was the question of identifying the factors influencing the purchasing decisions of customers purchasing online. Statistical relations between the studied variables were identified and the strength of these relations was calculated. Statistical relationships exist between:

- clients' social status and the choice of specific product card content; the relationship occurs for each of the types of products analysed, i.e. ovens, stoves and refrigerators,
- gender and the choice of specific product card content; the relationship is visible only for fridge product cards,
- clients' social status on the distribution of traits guided by the respondents during the purchasing process; the relationship exists for price, durability, reliability and technical novelty,
- the age of the clients and the characteristics that the respondents use during the purchasing process; the relationship exists for aspects of prices, durability and technical novelty.

The results of the study confirm that the way the product is presented, and thus the type of content, significantly affects the purchasing intentions of consumers. The choices of respondents indicate that they prefer *rich content* product cards. Using *rich content*, among others, the XB oven, YA fridge and ZA stove received the highest marks in terms of general and detailed description of the product, its presentation and composition of the product card. Respondents were more willing to add to the shopping basket equipment that was presented in a more interesting and transparent way than products presented on *basic* cards, even if the technical parameters and functions of these products were the same or similar on both types of cards.

The product card in the online store should provide the customer with as much useful information as possible, highlight the advantages of using the equipment, dispel his doubts so that he does not look for an offer in another e-store. In addition, product information such as technical specifications, mode of operation, dimensions should be presented in a more attractive form than in a table, which is often the most extensive element of basic cards. The visual representation (in the form of photos, videos, animations) attracts the customer's attention and facilitates the understanding of complex concepts. The results of the study indicate that the method of product presentation is the most important feature determining the choice of a specific product.



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**WPLYW UKŁADU KART PRODUKTOWYCH I ZAWARTCH W NICH TREŚCI  
NA DECYZJE ZAKUPOWE KLIENTÓW.  
BADANIE NA PRZYKŁADZIE KART SPRZĘTU AGD  
W SKLEPIE INTERNETOWYM**

Streszczenie

Rynek *e-commerce* rozwija się dynamicznie na całym świecie. W Polsce w 2020 r. jego wartość jest szacowana na 70 miliardów złotych. W stosunku do 2019 r. jest to wzrost o 20 miliardów, co kształtuje dynamikę wzrostu na poziomie 40%. Autorzy opracowania zadali pytanie, jaki wpływ na decyzje klientów rynku *e-commerce* mają karty produktowe i ich zawartość. W opracowaniu przedstawiono metodykę i wyniki badań nad zawartością kart produktowych dla wybranych kategorii sprzętu AGD dla rynku *e-commerce*. Badania przeprowadzono w specjalnie stworzonym sztucznym środowisku sklepu internetowego, odwzorowującym funkcje najważniejszych sklepów na rynku polskim. Badaniom poddano dziewięć ofert w trzech kategoriach produktowych. Celem prac było zbadanie czynników wpływających na decyzje zakupowe potencjalnego klienta dokonującego zakupu przez Internet. Oceniano wpływ układu karty produktowej na decyzje zakupowe z uwzględnieniem poszczególnych grup wiekowych i płci badanych. Uzyskane wyniki świadczą o istotnych różnicach między decyzjami zakupowymi podejmowanymi na podstawie zwykłych kart produktowych oraz kart *rich content*. Ponadto wykazano związek między cechami demograficznymi a decyzjami zakupowymi klientów na rynku *e-commerce* w grupie produktów AGD.

**Słowa kluczowe:** *e-commerce*, zakupy przez Internet, zakupy *online*, karty produktowe, *rich content*